



Thai Oil Public Company Limited

Presentation to Investors

June 2021



Disclaimer

The information contained in this presentation is intended solely for your personal reference. Please do not circulate this material. If you are not an intended recipient, you must not read, disclose, copy, retain, distribute or take any action in reliance upon it.

Some statements made in this material are forward-looking with relevant assumptions, which are subject to uncertainties, which may cause the actual result/performance to be materially deviated from any future result/performance implied by such forward-looking statements. Please note that the company and management/staff are not capable to control and guarantee if these forward-looking statements will be accurately materialized, they are subject to various risks and uncertainties.

Presentation Agenda

TOP GROUP BUSINESS OVERVIEW

KEY FINANCIAL HIGHLIGHTS

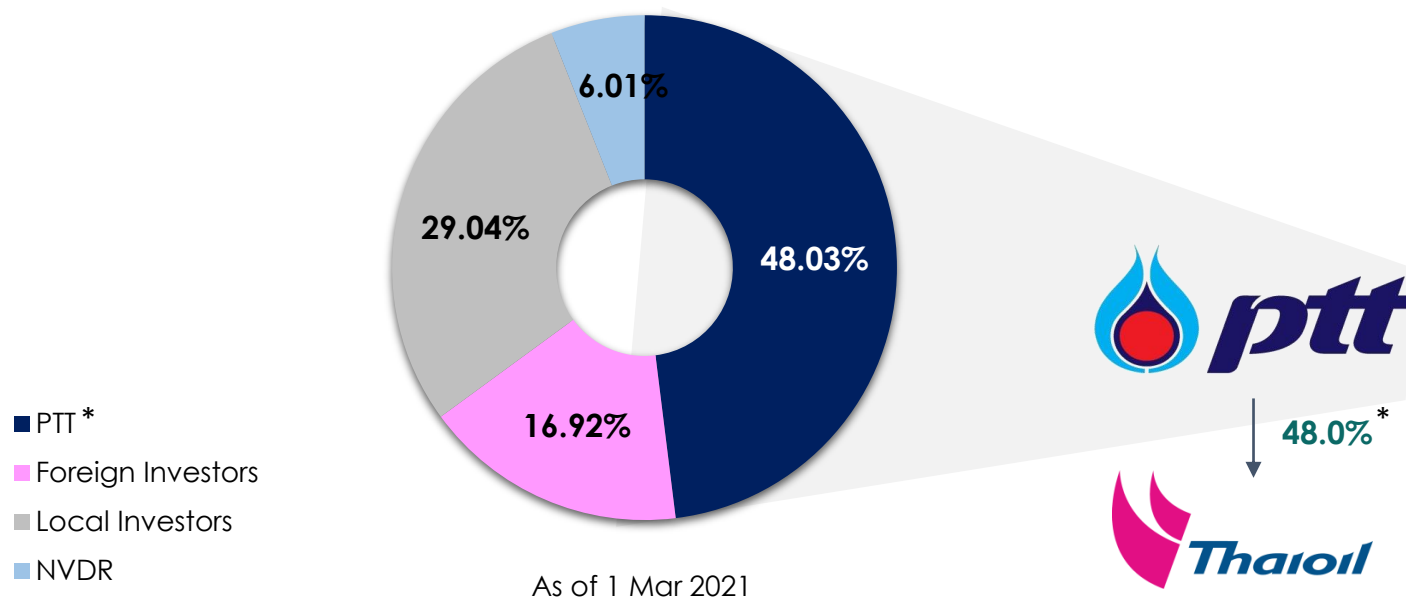
STRATEGIC INVESTMENT PLANS

OUTLOOK

APPENDIX

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

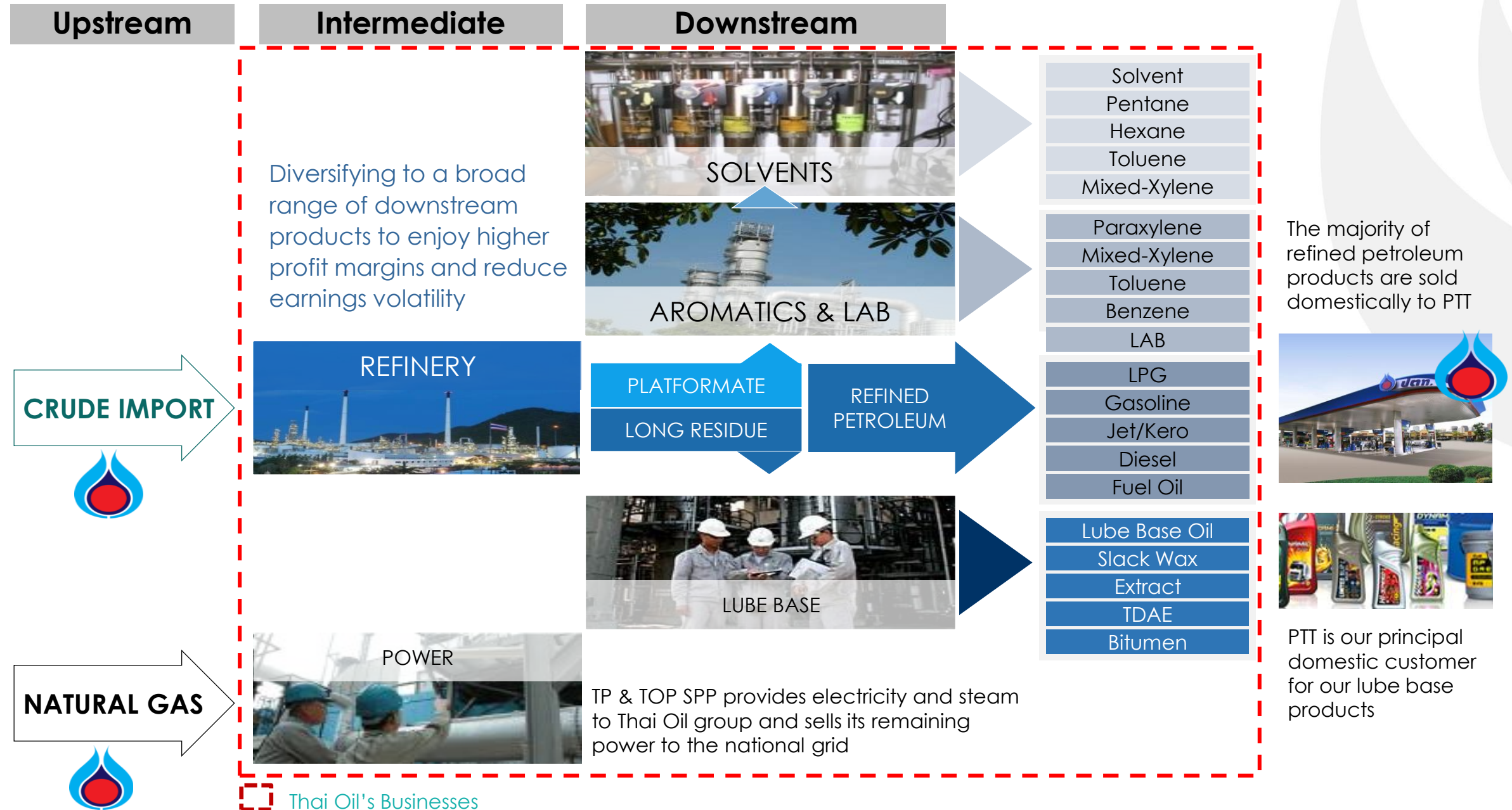
- Freight costs reduction
- Knowledge transfer and shared services
- Close management collaboration and secondment of trained staff

Remark

* PTT holds total of 48.03 % both direct and indirect

TOP Group Synergy & Strategic Role in PTT Group Value Chain

-5-



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

-6-

1961 – 1997 Capacity expansion and initial stage of business diversification

- 1961**
 - Incorporated
- 1964**
 - Commenced operation with distillation capacity of 35 kbd
 - Simple refinery with Nelson complexity Index ~ 4¹
- 1970**
 - Refining capacity expanded to 65 kbpd
- 1989**
 - Increased refining capacity to 90 kbpd

2004 – 2011 Listing, expansion and diversification

- 2004**
 - IPO and listed on the SET
 - Acquired remaining shares in Thai Paraxylene and Thai Lube Base which became our wholly-owned subsidiaries

Today A leading integrated refining and petrochemical group in Asia Pacific

- 275 kbd refinery (approximately 22% of Thailand's total refining capacity)
- Nelson index 9.8¹
- Diversified business through 16 subsidiaries

2013-2014

- Established LABIX
- Invested in power biz via GPSC & TOP SPP
- Completed Emission Improvement, HVU-2 Debottlenecking & CDU-3 Preheat Train project

2015-2016

- Completed Projects: LABIX & TOP SPP

2017-2018

- 2017 Revenue 337,388 MB
- 2017 Net profit 24,856 MB
- Completed lorry expansion project (10 to 15 mml/day)
- Established Thailoil Treasury center (TTC)
- CFP Investment (\$4.8 bn)

2019

- ERU Carve-out to reduce CFP project cost (CFP cost \$4.1 bn)
- Set up TOP Venture Co., Ltd under TTC

2010

- Established Thailoil Ethanol
- Production expansion of TDAE by 50,000 tons per annum

2011

- Manufactured diesel and ULG in compliance with the sulfur and BZ aromatics content requirements of the Euro IV
- Acquired 1st VLCC

2007

- Increased refining capacity to 275 kbd

2008

- The first refinery in Thailand with diesel production to comply with the sulfur content requirements of Euro IV
- Capacity expansion of Thai Paraxylene with total aromatics capacity of 900,000 tons p.a.
- Invested in Solvents business in Thailand and Vietnam

★ 1961 – 1964

● 1970-1989

● 1993-1997

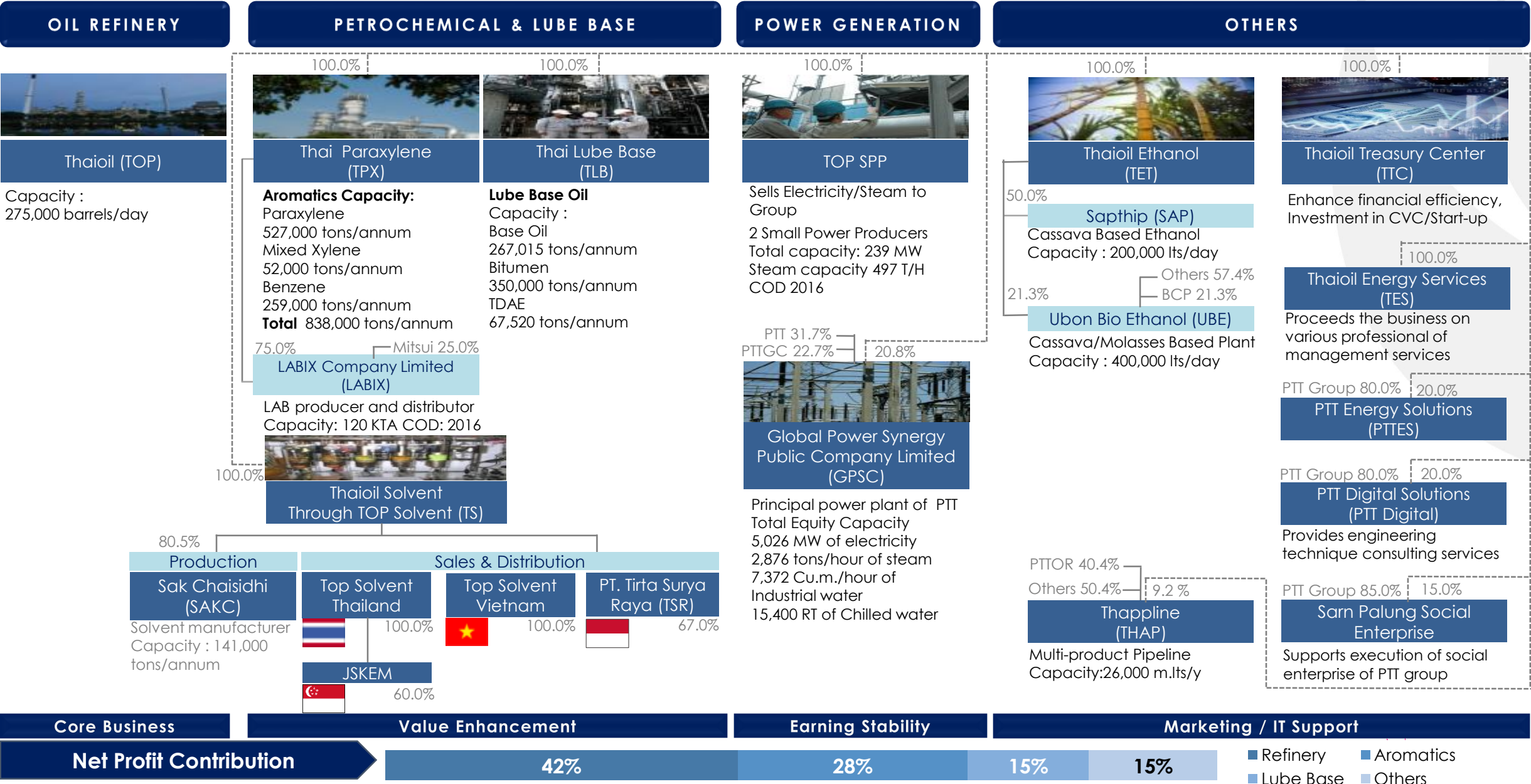
● 2004

● 2007-2008

● 2010-2011

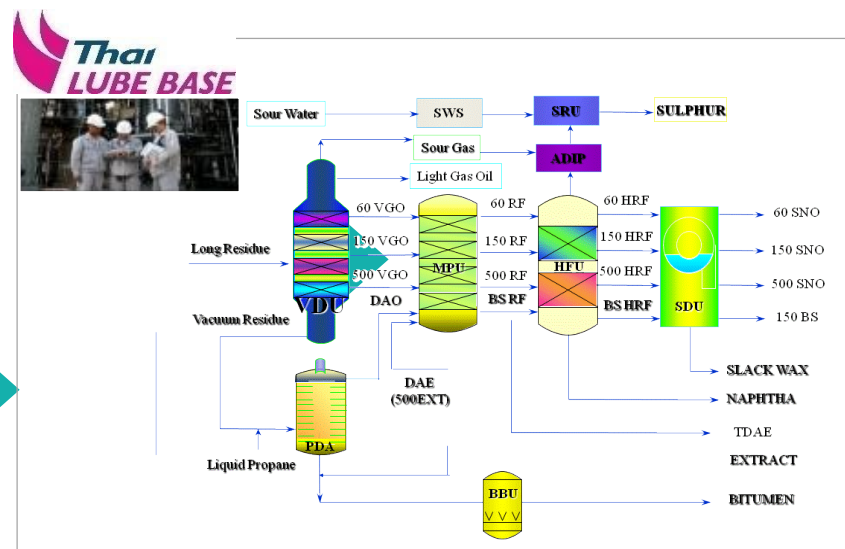
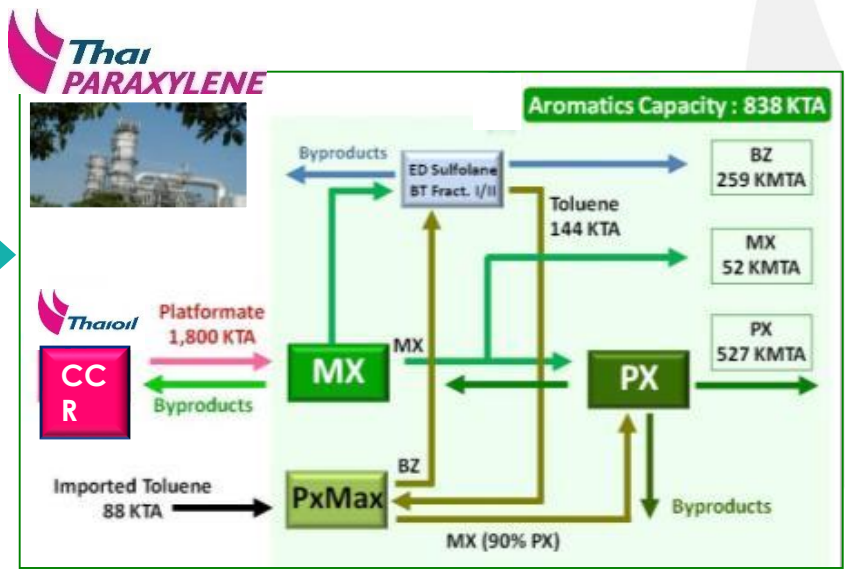
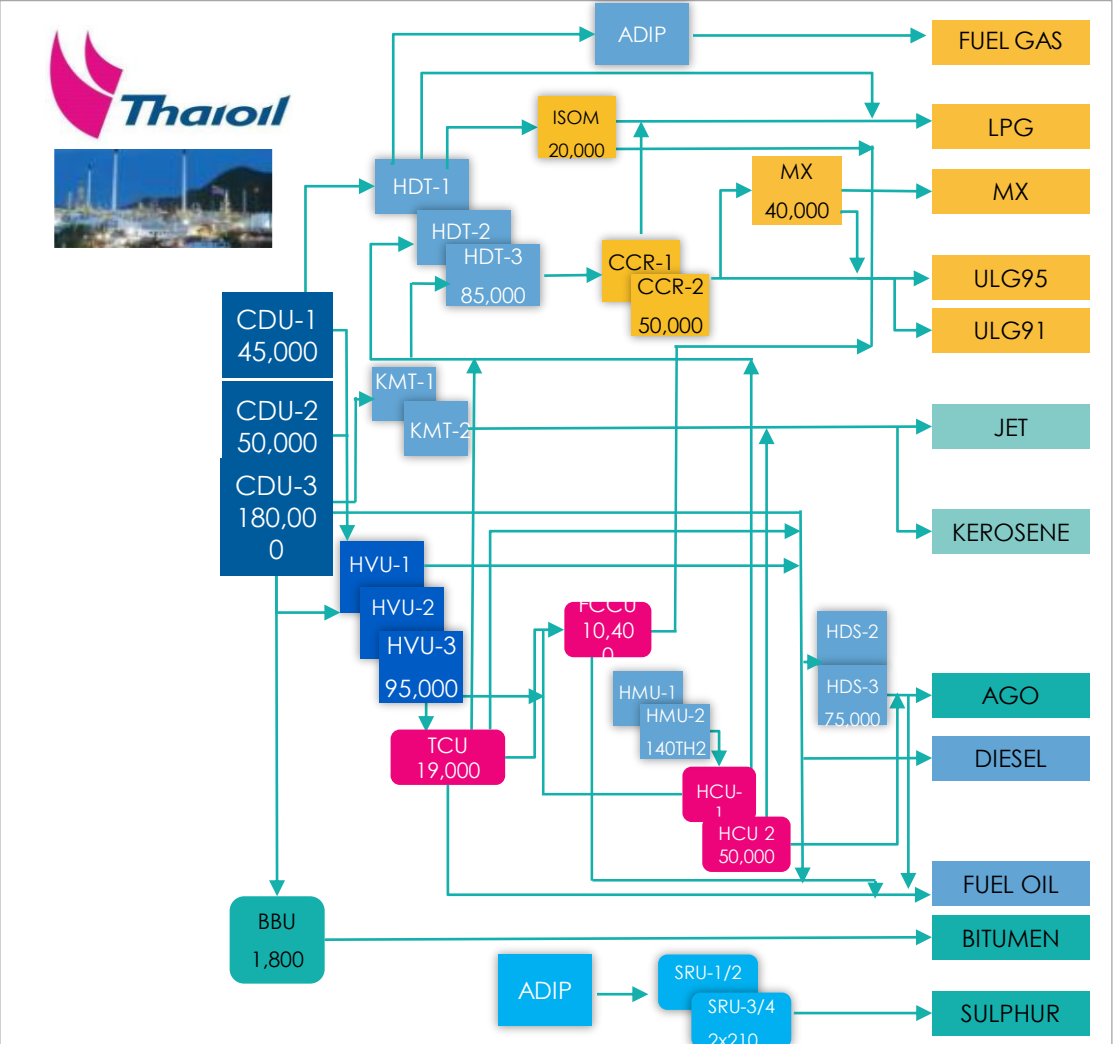
● 2013-2020

Thai Oil Group Business Structure



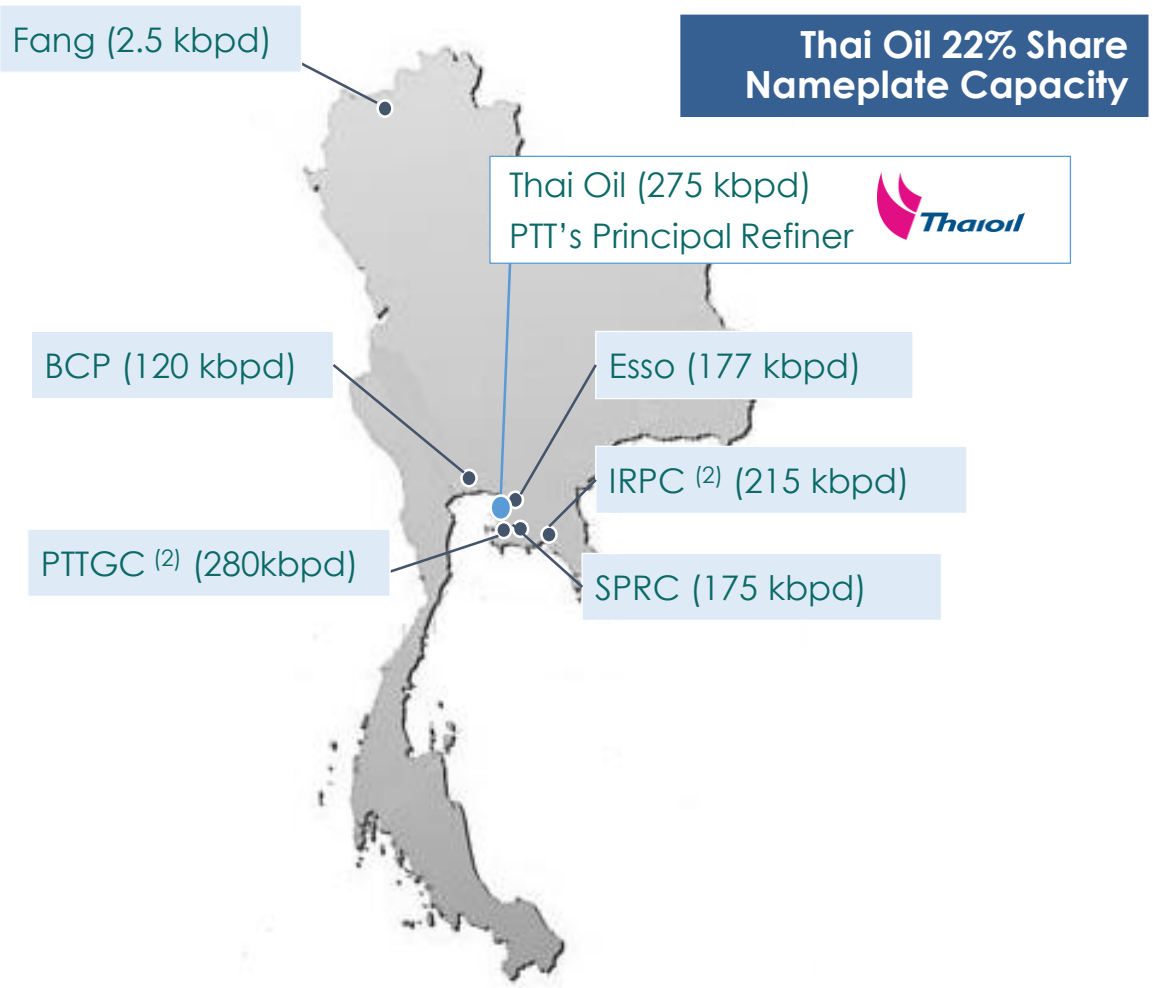
Process Linkage: Beauty of Integration

PROCESS FLOWCHART

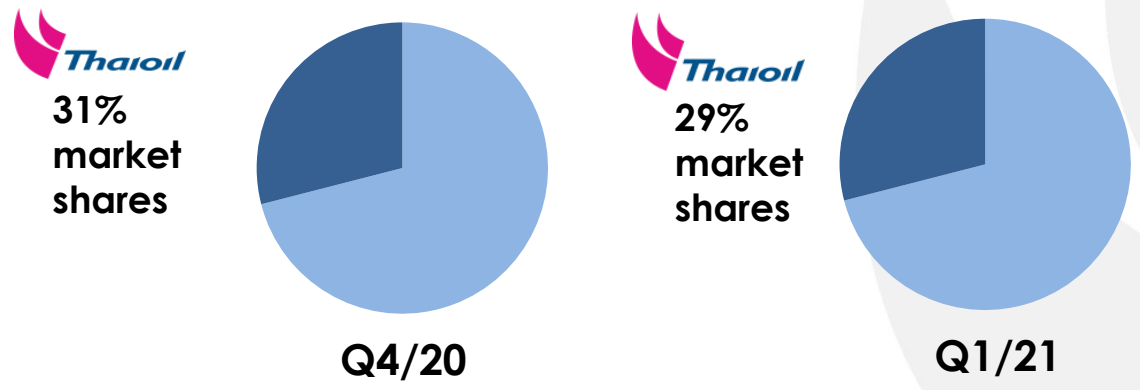


One of Region's Leading Refineries

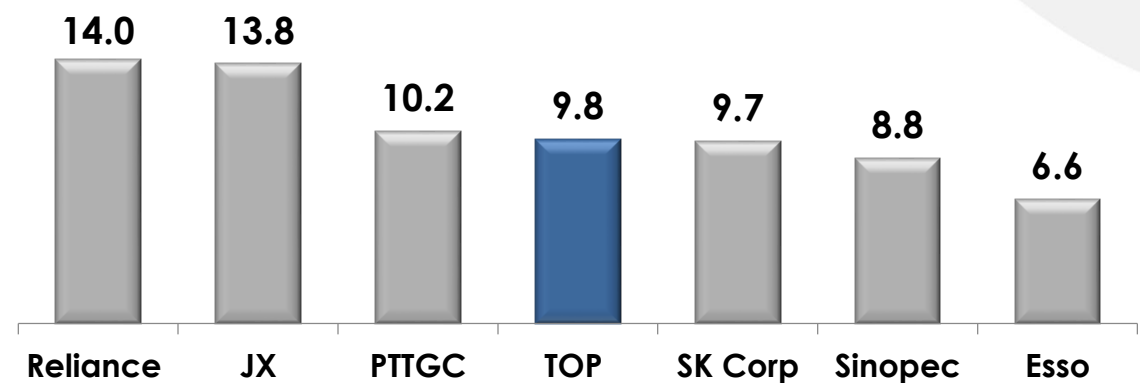
Total Thailand crude refining capacity 1,244.5 kbd ⁽¹⁾



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

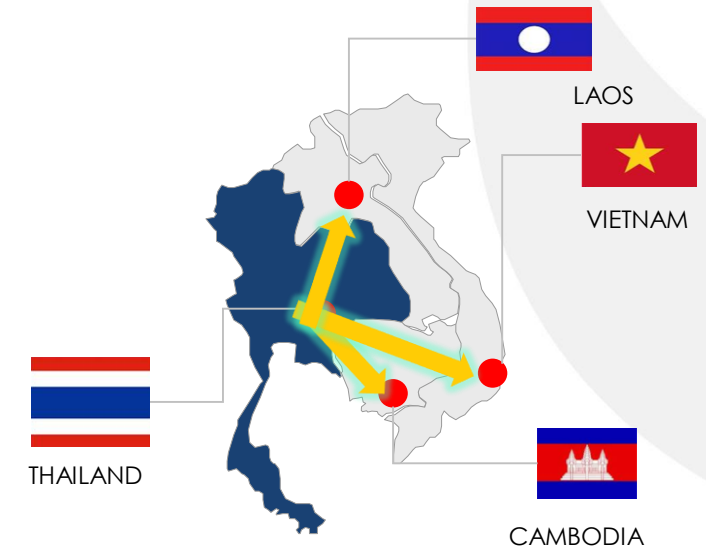
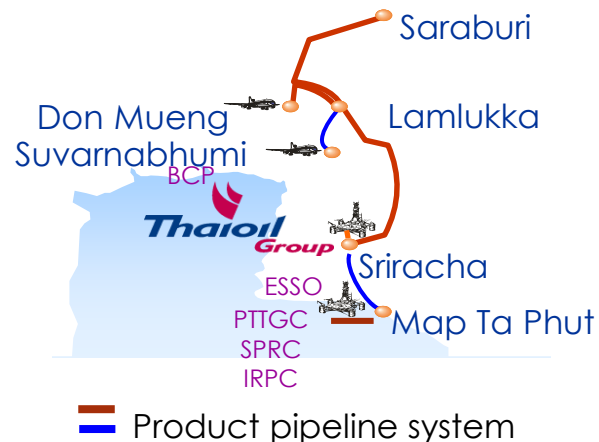
Access to Indochina markets through deep water ports and trucks

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



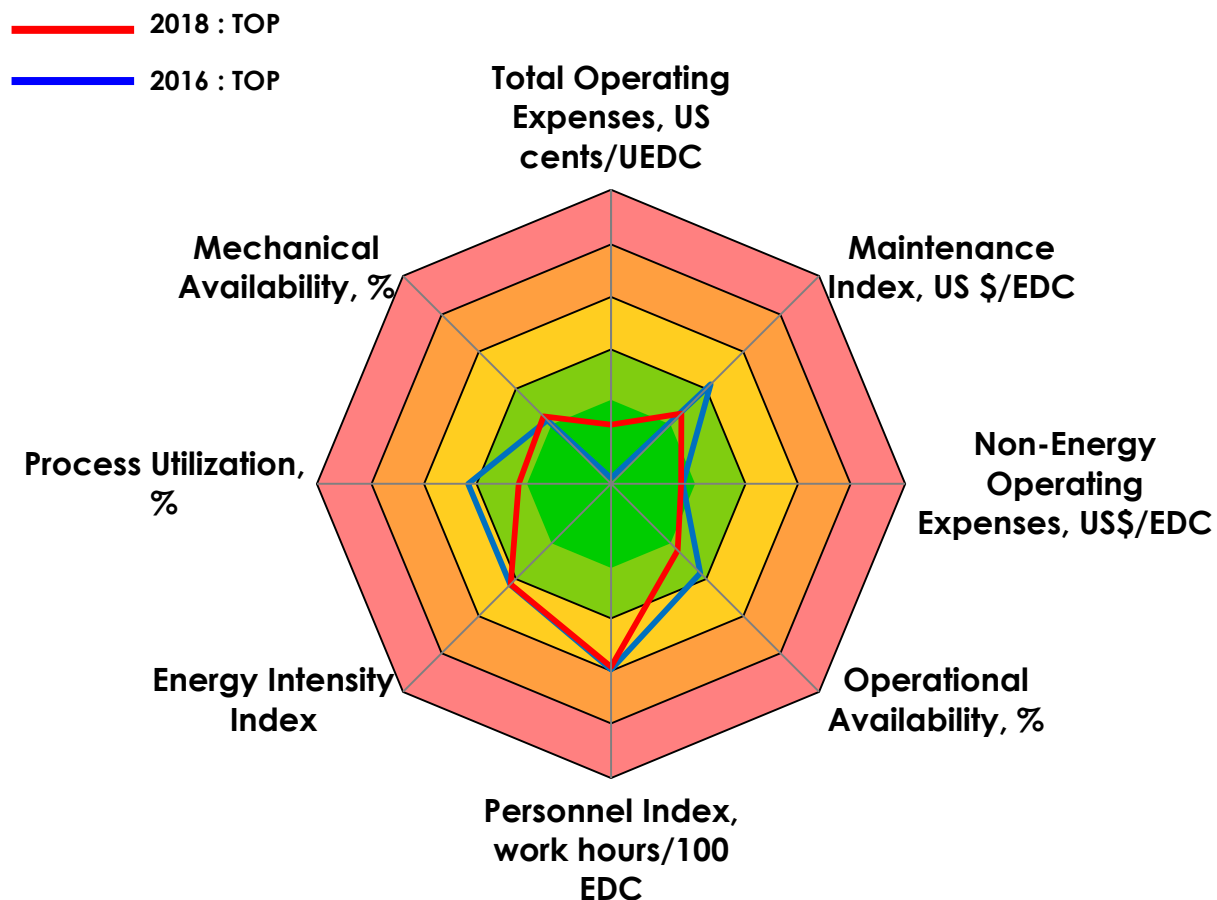
Direct connection with product pipeline system



- ✓ 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



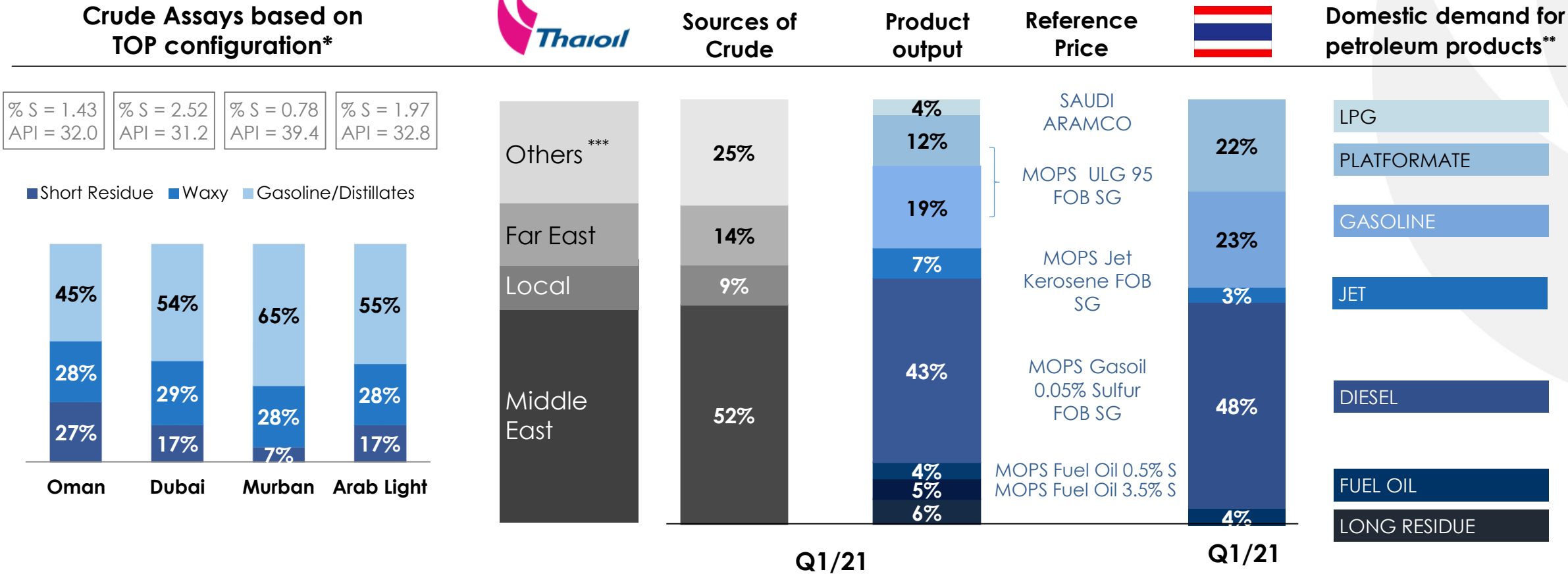
Solomon Associates is the independent 3rd party who applies Comparative Performance Analysis methodology to industry peers in the area of reliability, equipment, utilization, operating expense, gross margin and overall performance range and come up with comparative ranking

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 yield as per assay in Spiral as of Feb 2016

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

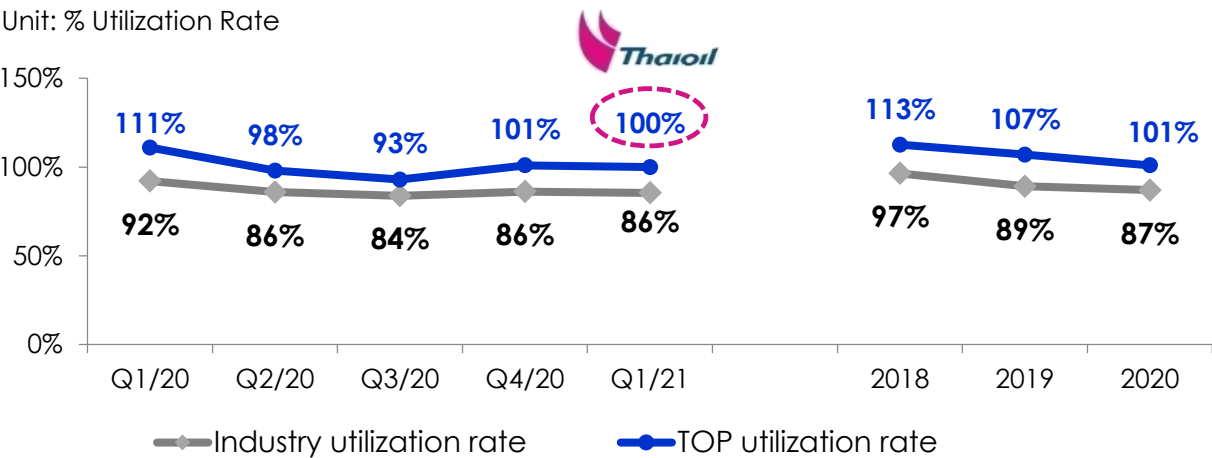
*** Including Nigeria, Russia and others

- 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

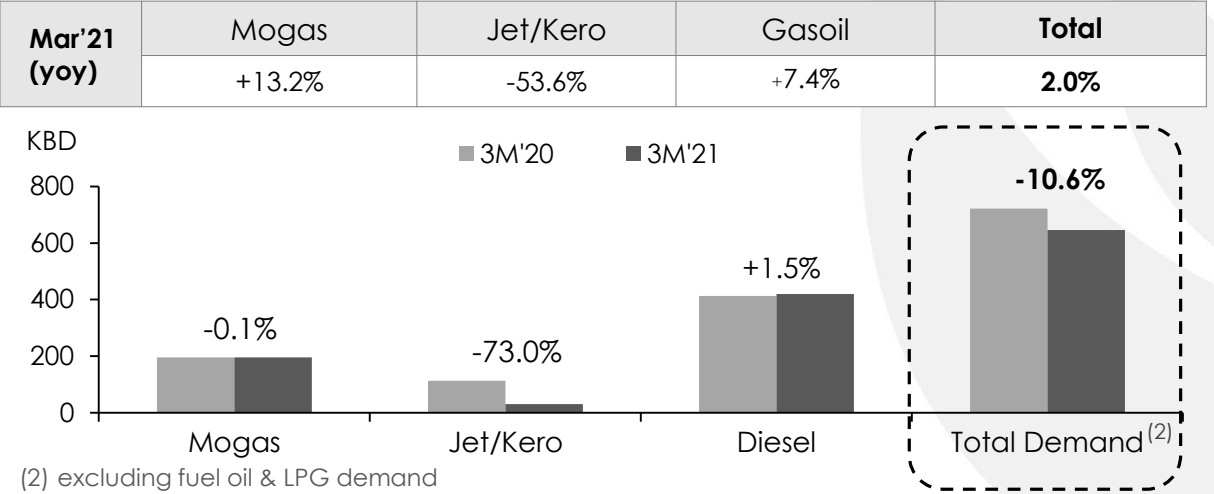
Refinery: Slightly Lower Utilization as Softening Domestic Oil Demand

-13-

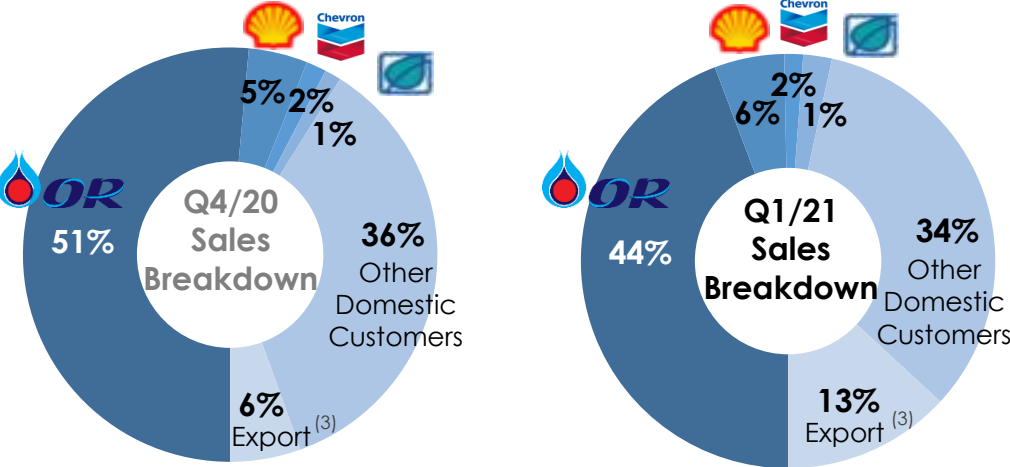
TOP/ Domestic Refinery Utilization Rate



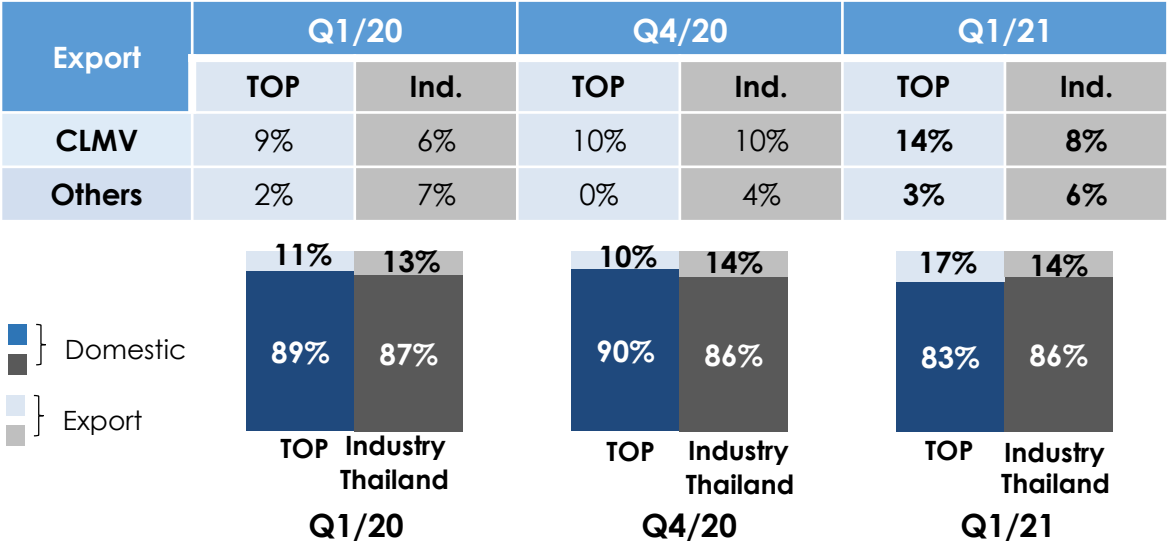
Domestic Oil Demand



Sales Breakdown by Customers



TOP's Domestic Sales vs Industry



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



KEY FINANCIAL HIGHLIGHTS

Q1/21 – 1 Year On, COVID-19 Still Here, But Recovery On The Way

COVID-19 Pandemic

Coronavirus around the world

Total confirmed cases

160+ million

Total Deaths

3.3 million



Vaccination

1.2 billion or **15 per 100 people**

Total doses administered

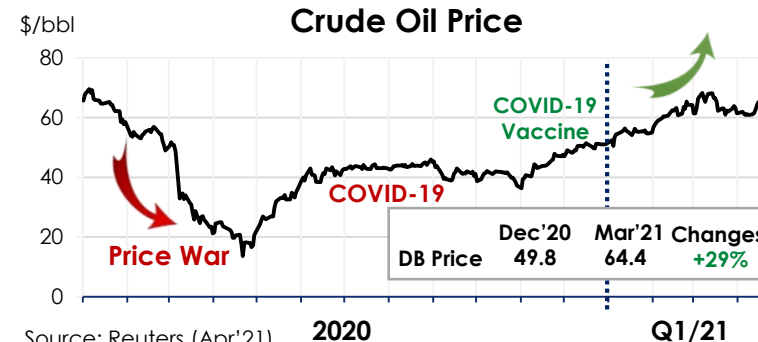


Source : WHO, The New York Times (May'21)

- **More than 3 million deaths** and **over 160 million infections** by the coronavirus worldwide
- **More than 1.2 billion vaccine doses** have been administered across 174 countries.
- **Widespread immunization is expected to be achievable** by most developed economies **by the end of Q3/21**
- **The economic recovery from COVID-19 set to accelerate in mid of 2021**, particularly in the U.S. & China on the back of a massive fiscal stimulus plan
- **The new wave of COVID-19 infections** in Thailand could delay **the economic recovery** including oil demand

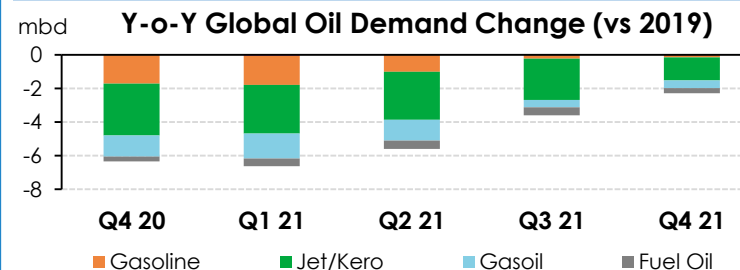
Global Oil Demand Recovery

Crude Prices Up With Optimistic Outlook



- **Oil demand optimism** brought oil prices back to pre COVID-19 level \$60-65 /bbl through Q1/21

Improving Oil Product Demand

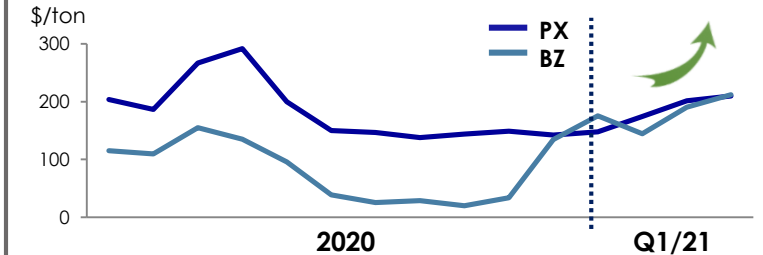


Source: Platts, EIA and Energy Aspect (Apr'21)

- **Increasing petroleum demand after COVID-19 relief**
- **Market expects global oil demand rebound to accelerate in 2H/21**, but jet fuel remains under pressure by limited international flight movement

Strong Downstream Markets

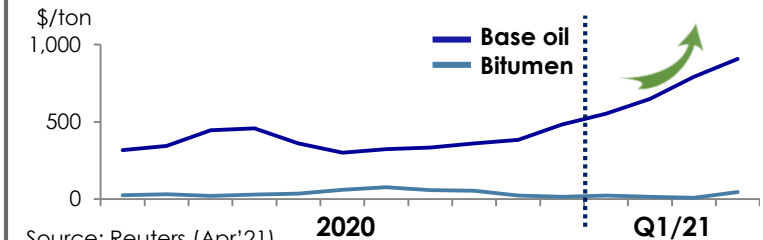
Improving Aromatic & LAB Market



Source: Reuters (Apr'21)

- **Improving aromatics market** on less additional capacity and demand recovery
- **Stable to firm LAB market** on growing demand for hygiene products during COVID-19 pandemic

Record High Base Oil Margin



Source: Reuters (Apr'21)

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

Improving Solvent Demand

- **Improving solvent demand** on gradual economic recovery

Continuous Extraordinary Effort

- **Enforcing highest level (Red)** of COVID-19 preventing & monitoring
- Communication through **I-COVID center**
- **Comprehensive preventive & protective measures**
- Ensure **BCM** & smooth operations
- **Vaccine readiness** for long term prevention

Operation

- Optimized overall value-chain utilization & production
- Stretched operational boundaries

Commercial

- Crude & feedstock optimization
- Maximized domestic & Indochina sale

Financial

- Continuously enhanced productivity improvement & cost management
- Proactive financial liabilities management & FX management



More Accelerate Our Execution

Refinery

- CFP get back on track
- **67% progress of CFP** at the end of Mar' 21, focus on construction works at site

Petchem

- Explore olefins investment to add value chain extension

Power

- **Completed process of Entire Business Transfer (EBT)** in Feb'21
- Appropriate portion of stable earnings : **Strategic holding 20.78% of GPSC**

New Business : 3 Key focus areas

- Manufacturing
- Better-living
- Mobility & New energy

Q1/21 Key Market Highlights

Crude Oil (Dubai rose to \$64.4/bbl from \$ 49.8/bbl , MB-DB rose to \$0.8/bbl from -\$0.3/bbl)

- **Optimism over global economic rebound** due to increasing vaccination rate and stimulus plan to boost economic recovery in the U.S. & China
- **A record high of OPEC+ compliance in Feb'21**, with 7.2 mbd production cut and Saudi Arabia's voluntary pledge for an additional 1 mbd
- **The decline in U.S. oil production from Texas cold snap**, historic freezing weather hampered US crude output by 3-4 mbd in Feb'21

Refinery (Mkt GRM softened to \$0.7/bbl from \$1.2/bbl)

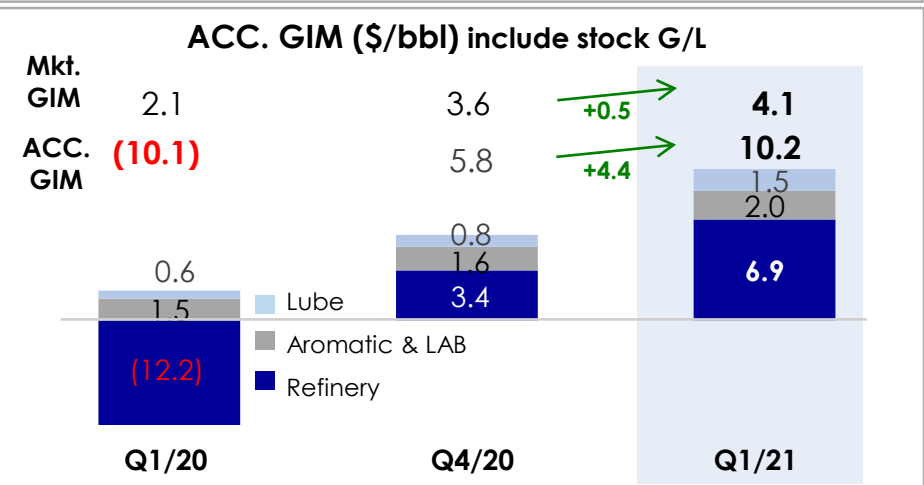
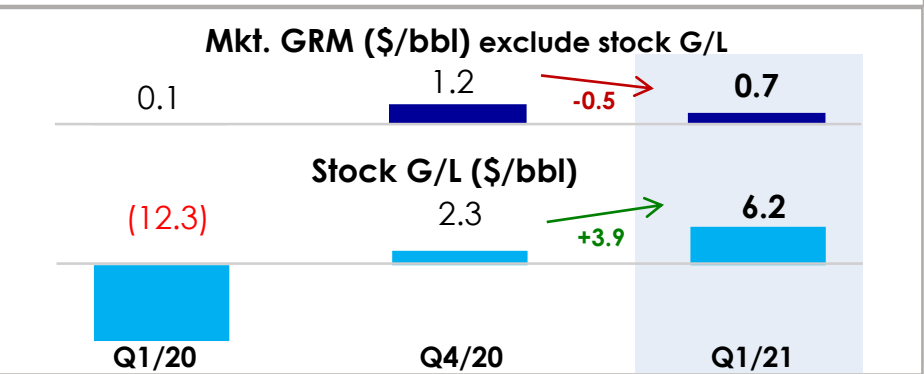
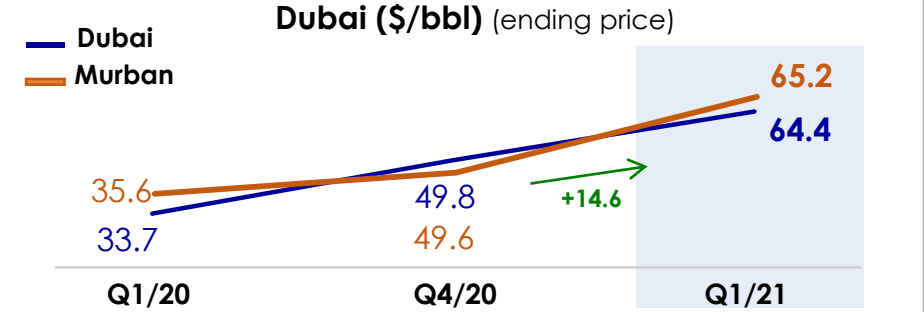
- **Higher crude premium** due to tight crude oil market from controlled production by OPEC+
- **Higher fuel & loss** following rising crude price
- **Improving Gasoline spread** supported by supply disruption in the U.S. following a cold blast, and low inventories worldwide
- **Improving Middle Distillate margins** especially Jet due to improving aviation fuel demand from increasing domestic flights and strong heating demand in N. Asia. Diesel spread supported by economic recovery and improving transportation demand following global vaccine rollouts

Aromatics & LAB (Contributions improved to \$2.0/bbl from \$1.6/bbl)

- **Improving PX margin** supported by strong buying interest from new PTA plants start-up(4.9 mtpa)
- **Strong BZ margin** supported by higher demand from new SM plant start-up (0.35 mtpa) and supply disruption in the U.S. following historic cold blast
- **Stable LAB contribution** due to growing demand for hygiene products during COVID-19 pandemic and limited regional supply

Lube & Bitumen (Contributions improved to \$1.5/bbl from \$0.8/bbl)

- **Record high Base Oil margin** due to limited supply from refinery run cuts and regional demand recovery and resilient lubricant demand from shipping sector
- **Improving Bitumen margin** due lower bitumen production from many refineries in the region especially in Singapore



Q1/21 Key Business Highlight & Financial Performance

Key Business Highlight

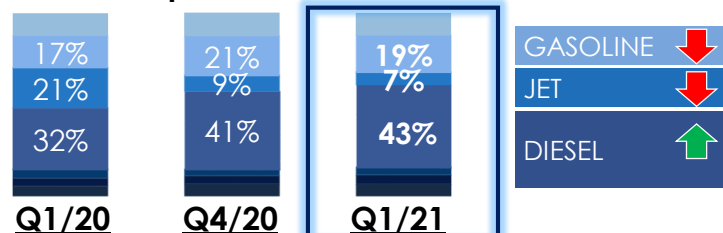
Operational

- Maintain high and reliable production

U-Rate %	Q1/20	Q4/20	Q1/21
Refinery	111%	101%	100%
Aromatics	81%	70%	80%
LAB	113%	115%	91% ⁽¹⁾
Base Oil	81%	93%	93%

(1) LABIX maintenance for 18 days

- Stretched operational boundaries



Commercial

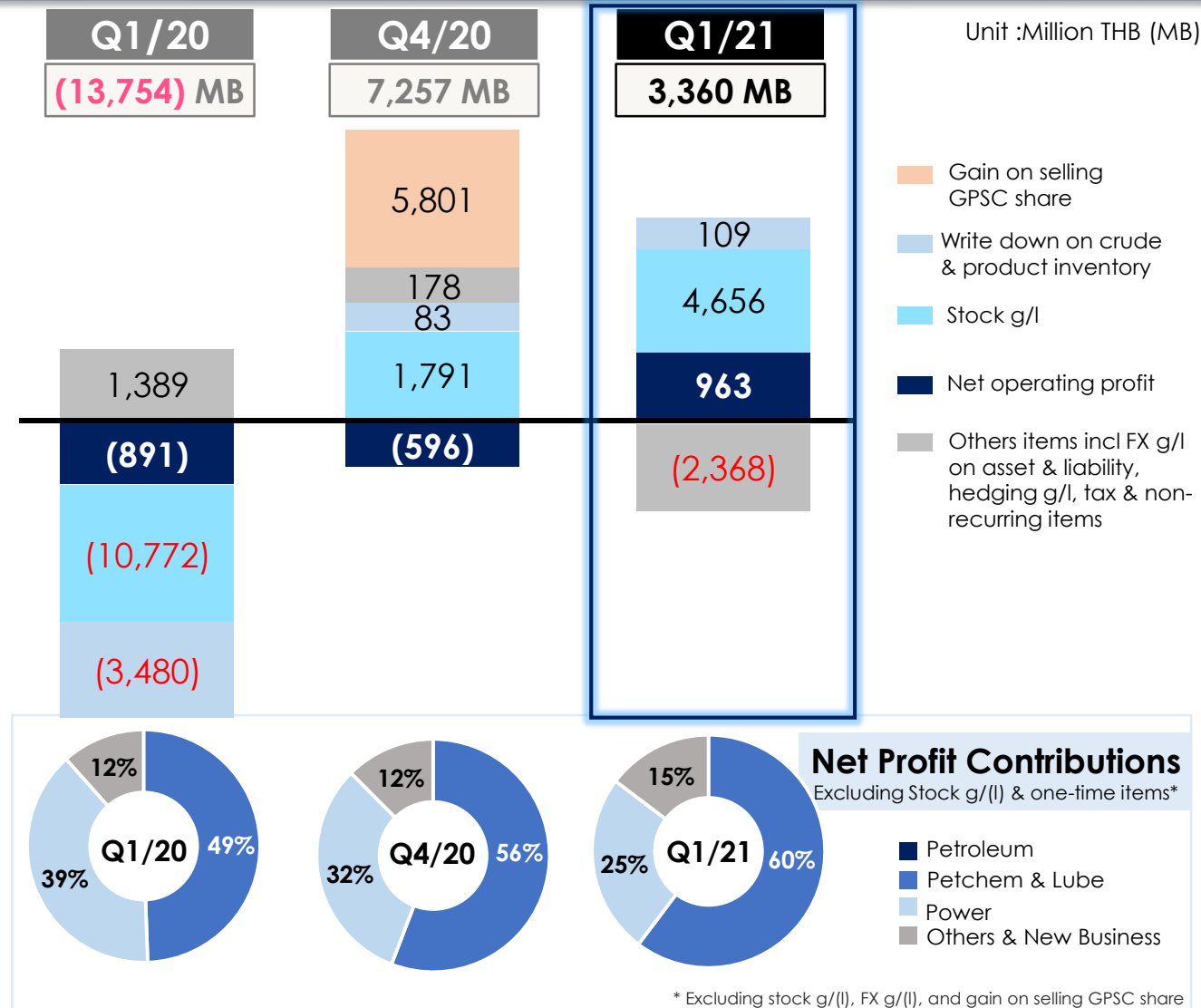
- Capture high local & Indochina sales

	Q1/20	Q4/20	Q1/21
Local	89%	90%	83%
Indochina	9%	10%	14%
Other exports	2%	0%	3%

Financial

- Continuously enhanced productivity improvement & cost management
- Proactive financial liabilities management & FX management

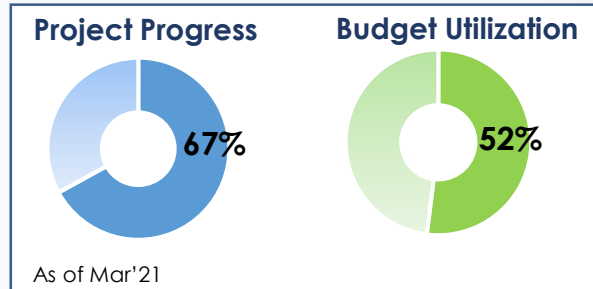
TOP Group Net Profit



Long Term Strategy Implementation

CFP

- Resume speedy CFP project execution



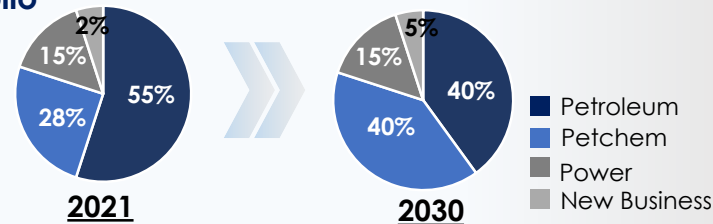
- Construction work will be key activities in 2021
- Continue stringent COVID-19 pandemic preventive measures at construction site

Supply Chain Management & HVP

- Extend “presence” in growth markets
- Market entire TOP's product suites
- Capture higher value with less competition through customer orientation
- Offer solutions; technically superiority or applications

Olefins

- Maximizing value chain & paving the way to new portfolio



- Fast track investment through JV with existing player
- Promising in net importing countries & potential growth market
- Strategy among PTT Group : Different geography, market/customer

Power

- Appropriate ratio of stable earnings
Strategic holding 20.78% of GPSC
- Enhance Thailoil Group's utilities reliability & growth
- Coordinated growth along with PTT Group

Funding Plans

New debt : USD 1 bn

Raising new debt by financial instruments i.e. hybrid bond

Long term facilities : USD 0.5 bn

Supporting facilities i.e. committed & uncommitted bank loans facilities

Crude credit term extension : USD 0.5 – 1 bn

Additional liquidity for the extension of payment by 60 days

Other funding options : USD 0.5 - 1 bn

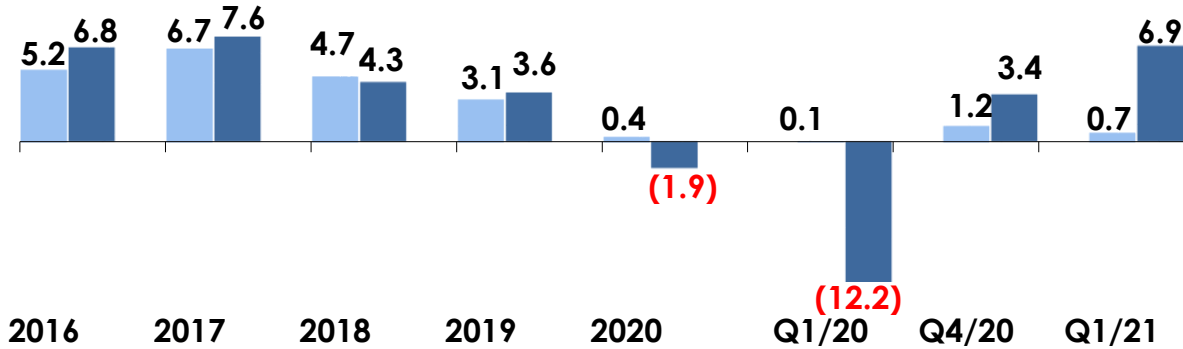
Including asset monetization

Integrated Margin & Competitive Cash Cost

Gross Refining Margin

(Unit: US\$/bbl)

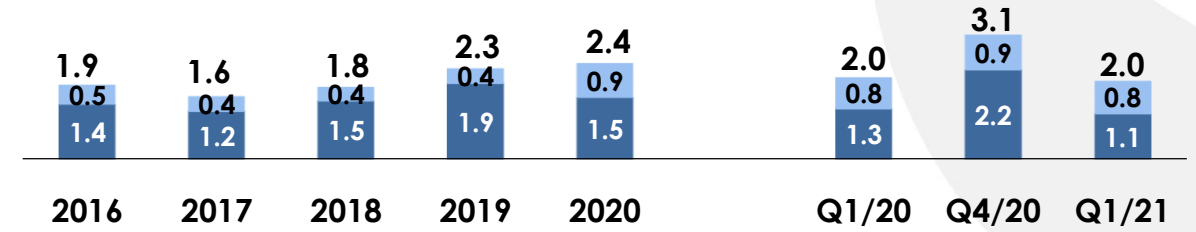
■ Market GRM ■ Accounting GRM (Market GRM + Stock G/L)



Refinery's Cash Cost

(Unit: US\$/bbl)

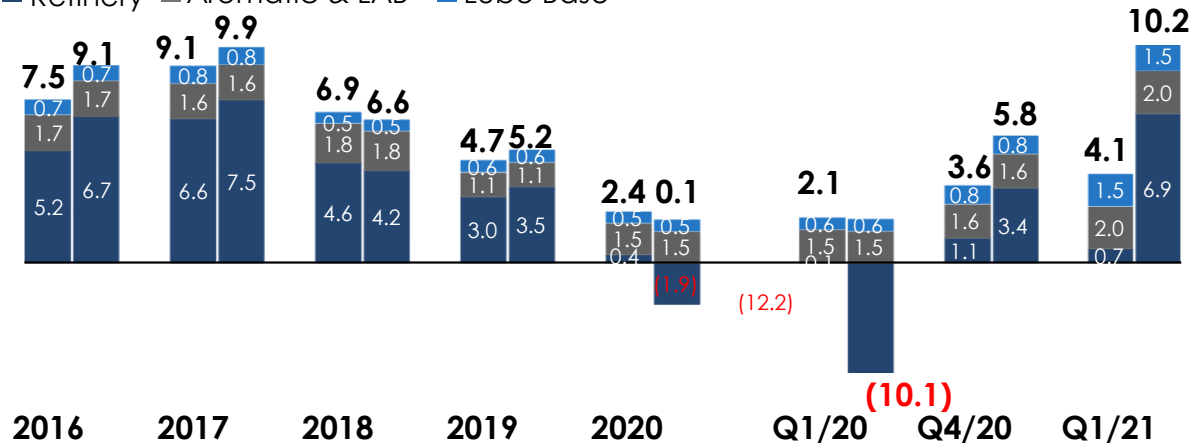
■ Operating Cost ■ Interest Expense (net)
(excl. one-time non-operating item)



Gross Integrated Margin

(Unit: US\$/bbl)

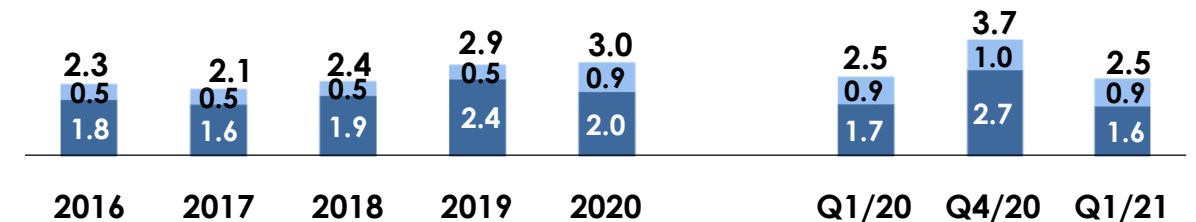
■ Market GRM ■ Accounting GRM (Market GRM + Stock G/L)
■ Refinery ■ Aromatic & LAB ■ Lube Base



Group's Cash Cost

(Unit: US\$/bbl)

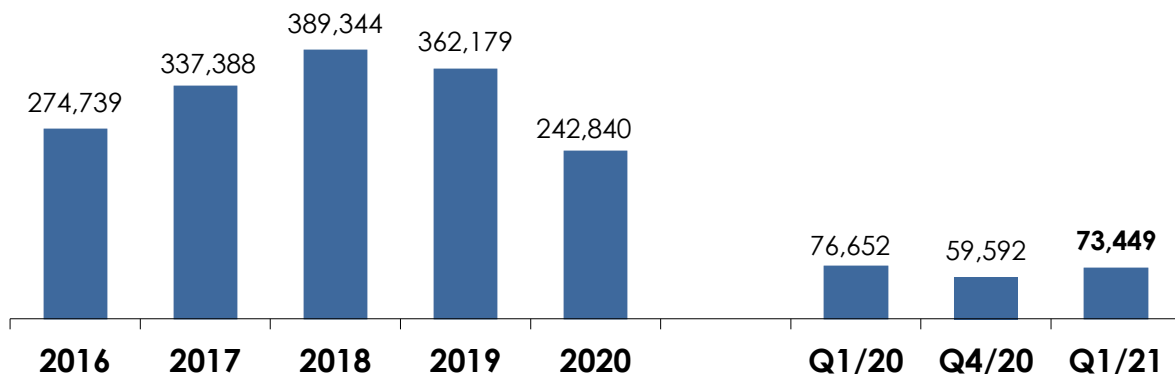
■ Operating Cost ■ Interest Expense (net)
(excl. one-time non-operating item)



Financial Performance

Sales Revenue

Unit: Million THB

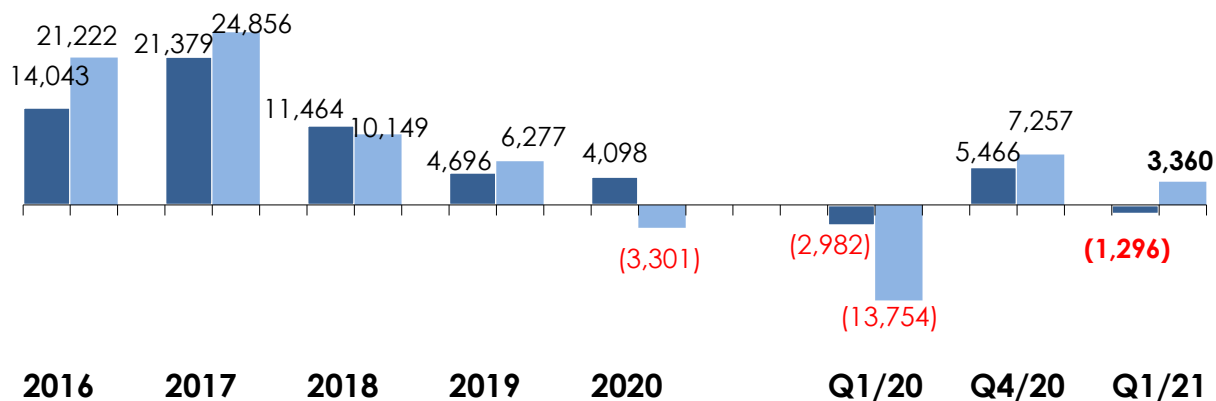


Net Profit

Unit: Million THB

■ NP (excl stk G/L before tax)

■ NP (incl stk G/L)



^R Restated financial statement

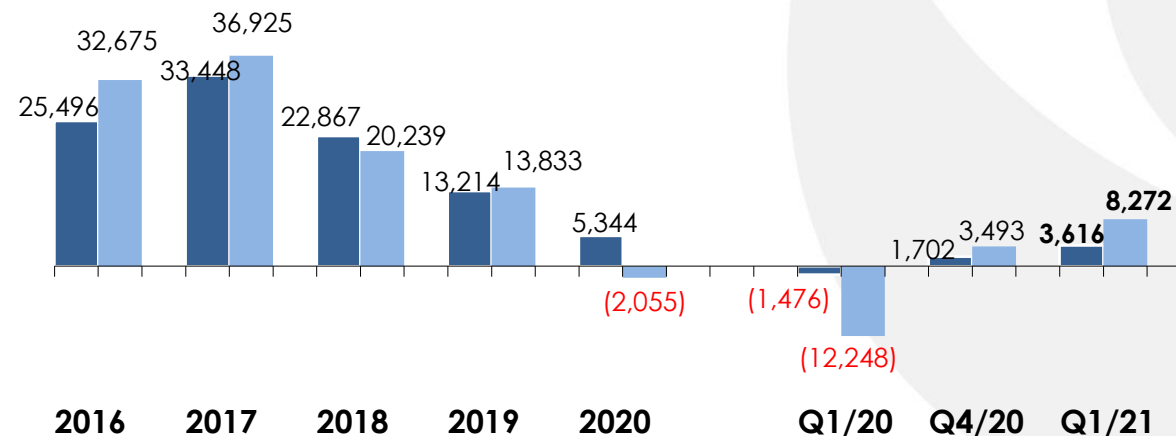
* Free Cash Flow (FCF) = Operating cash flow – Net CAPEX(PP&E)

EBITDA

Unit: Million THB

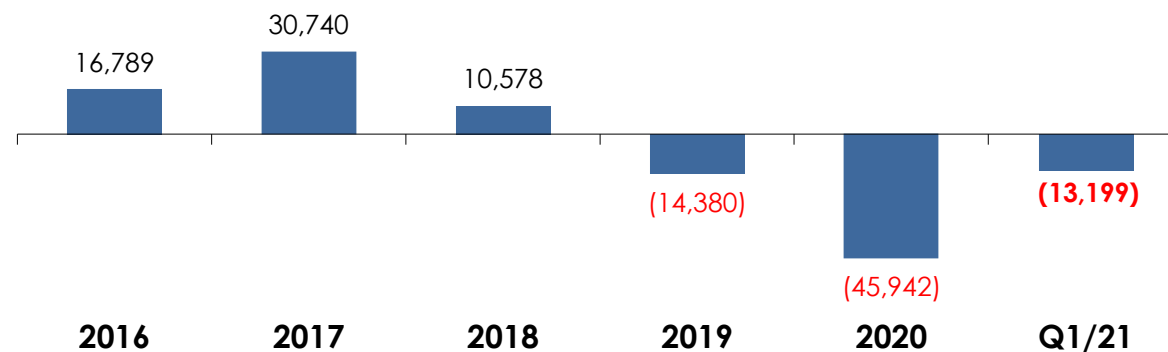
■ EBITDA (excl stk G/L)

■ EBITDA (incl stk G/L)



Free Cash Flow*

Unit: Million THB



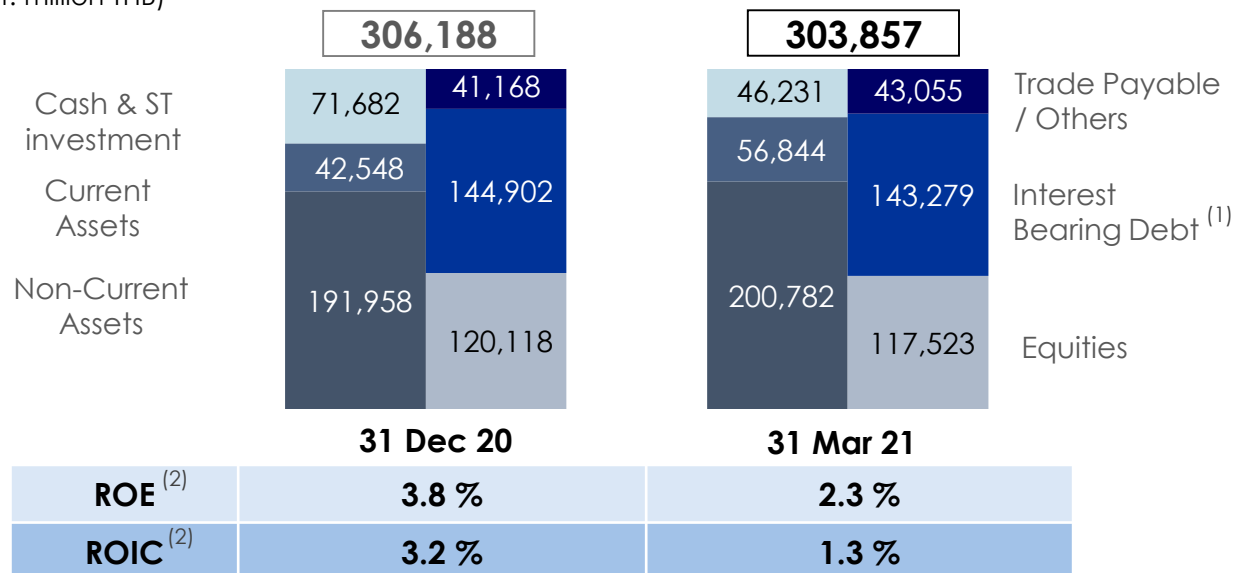
Net CAPEX (PP&E)

10,830	6,392	3,677	7,735	27,467	48,377	9,834
--------	-------	-------	-------	--------	--------	-------

Q1/21 TOP Group Strong Financial Position & Financial Ratios

Statements of Financial Position

(Unit: million THB)



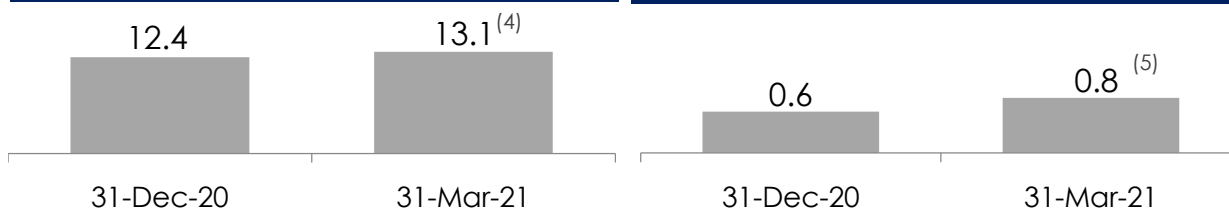
(1) Including current portion of Long-Term Debt

(2) Based on actual performance in the past 12 month and excluding stock g/l & NRV

Financial Ratios

Net Debt / adj. EBITDA

Net Debt / Equity



(4) Based on actual performance in the past 12 month and excluding stock g/l & NRV

(5) As of 31 Mar 21 Net Debt 97,048 MB or 3,080 M\$

Consolidated Long-Term Debt as at 31 Mar 21

Total IBD

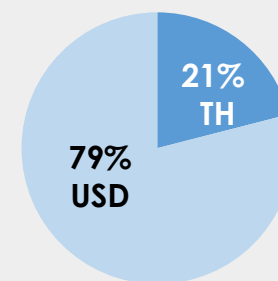
143,279 million THB
(US\$ 4,548 million equivalence)

Net Debt

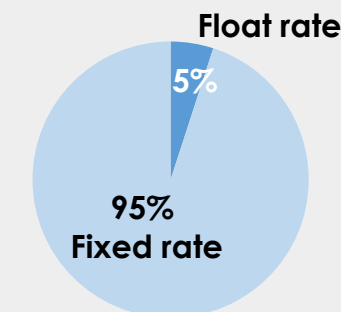
97,048 million THB
(US\$ 3,080 million equivalence)

As at 31 Mar 21 (31.51 THB/US\$)

Currency Breakdown



Interest Rate Breakdown



Avg. Debt Life (yrs)

16.7 yrs

Cost of Debt (Net)

3.81% ⁽³⁾

(Gross)

4.20%

(3) Due to yield enhancement

Moody's

STANDARD & POOR'S

FitchRatings

Final rating

Baa2
Negative Outlook

BBB
Stable Outlook

A+(Tha)
Negative Outlook

TOP Group Strategic Investment Plan

CAPEX Plan (Unit US\$ million)

Updated as of April 2021

Project	Actual Q1/21	Total Budgeting Investment Plan 2021 - 2024
CFP project *	303	1,902
Total Ongoing CAPEX	12	201
Reliability, Efficiency and Flexibility Improvement	2	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)	7	72
Other Investments (i.e. Corporate Venture Capital - CVC , Digital Transformation)	3	81
TOP SPP Expansion	-	145
Total CAPEX	315	2,248

* 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

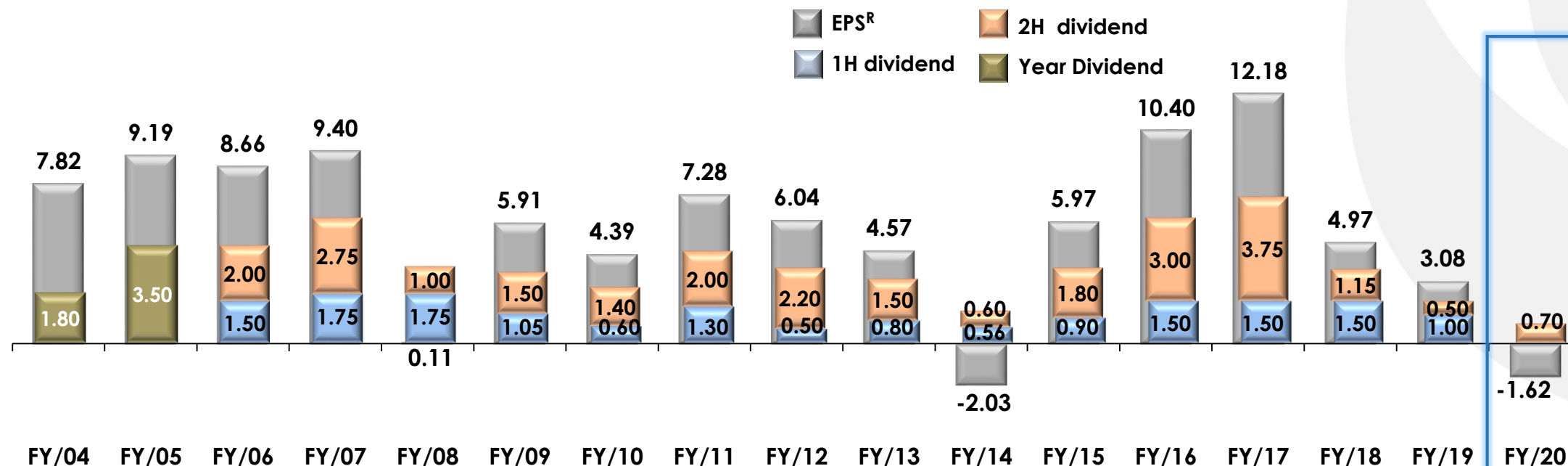
Notes: Excluding approximately 40 M\$/year for annual maintenance

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 Strategic Direction : Accelerate the Transformation

✓ Agility & Nimble

✓ Flexible & opportunistic

✓ Resilience

Vision
2030

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



Value Maximization

Hydrocarbon Value Chain Integration

Refinery

Aromatics

2 High Value
Products

1 Olefins



3

Supply Chain Management as a Growth Platform



Earnings Diversification

Stable Income

Seed New Options

4 Power

New Business

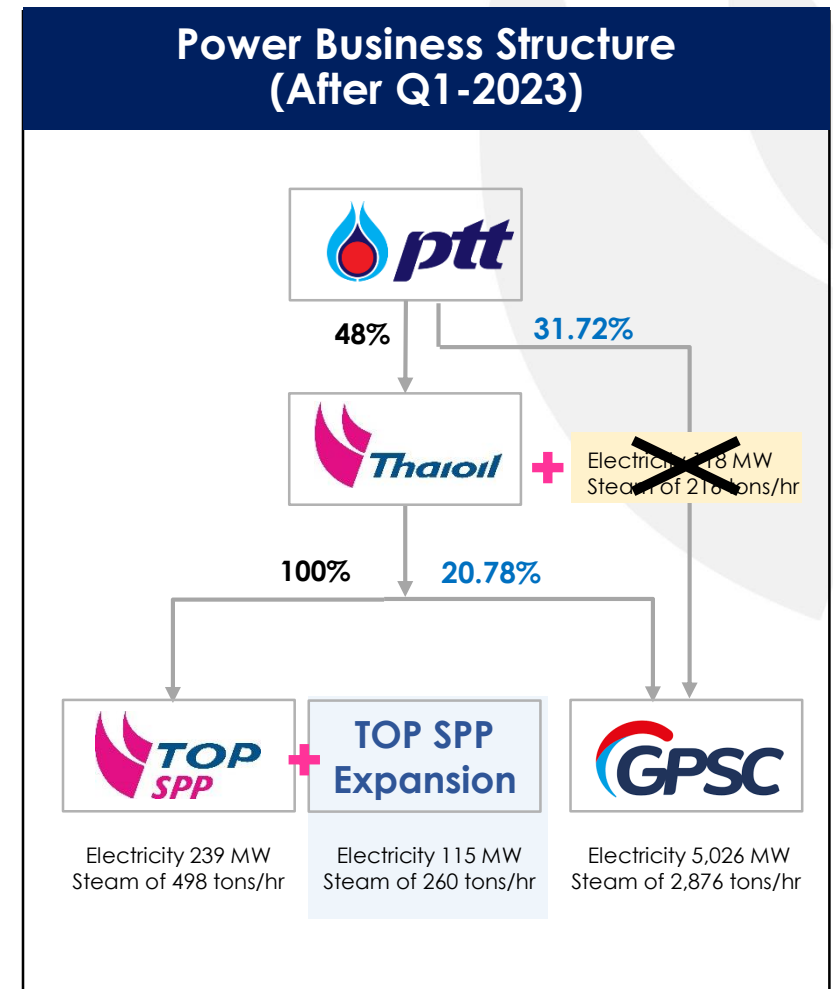
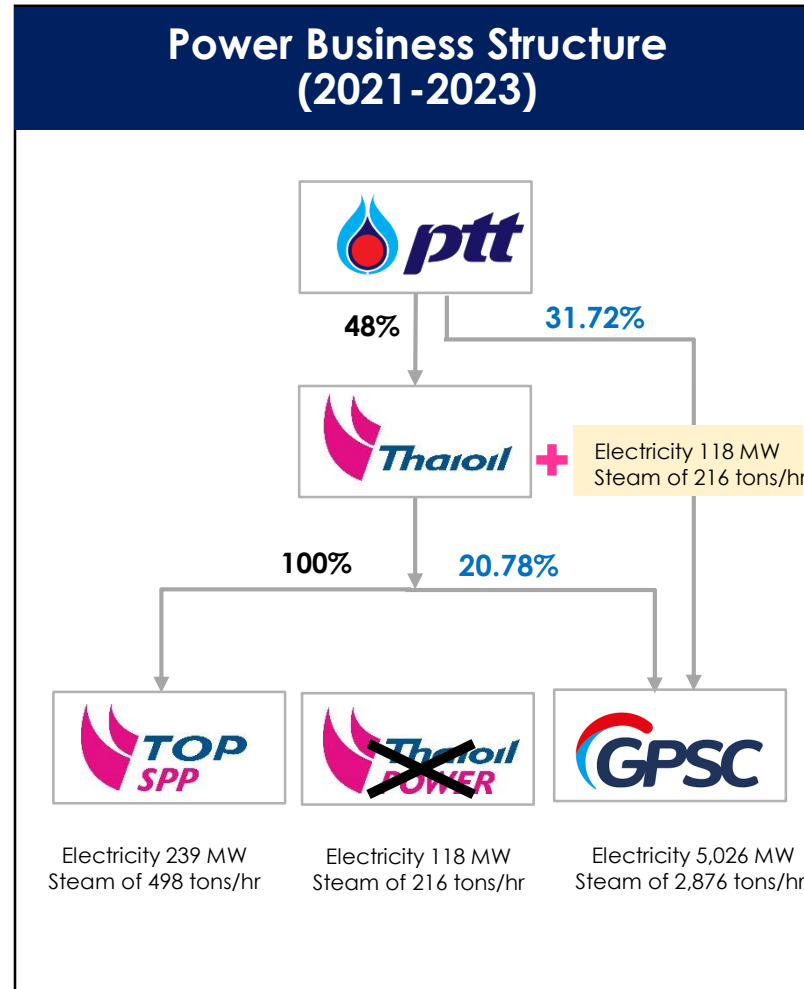
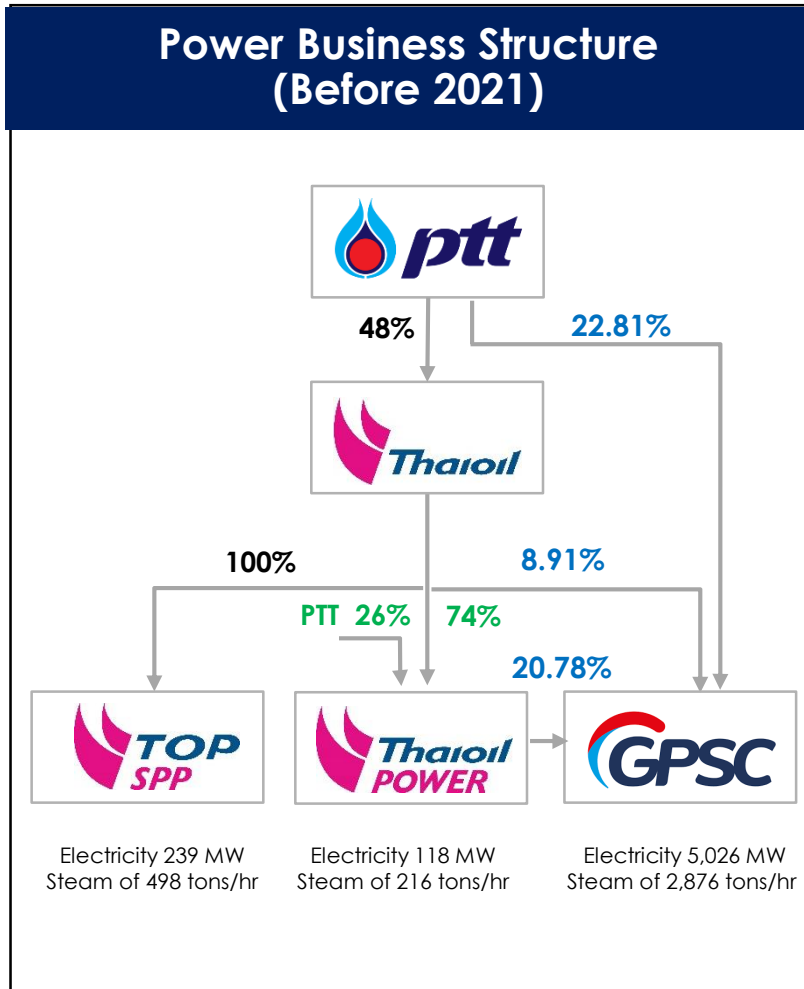
Effective Execution

Leverage on 4P's : People + Patronage + Partnership + Platform

Drive for Sustainability

Partner for Life through ESG : Environment + Social + Governance

TOP's Power Business Structure



TOP SPP's Expansion

Key Objective and Benefit

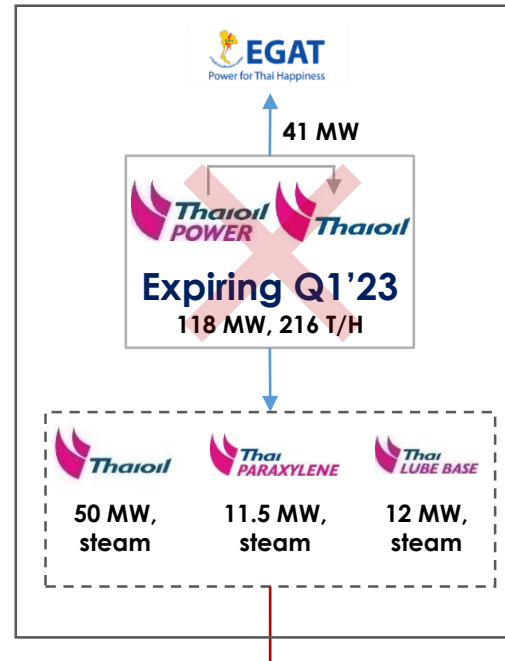
- Ensure power & steam reliability and increase efficiency for TOP Group
- Support future growth of TOP Group
- Replace a 25-year-old SPP of TP after the expiry of PPA with EGAT in March 2023
- Expect to achieve good return on investment from competitive investment cost as a brownfield project and feedstock cost under SPP program

Detail & Timeline

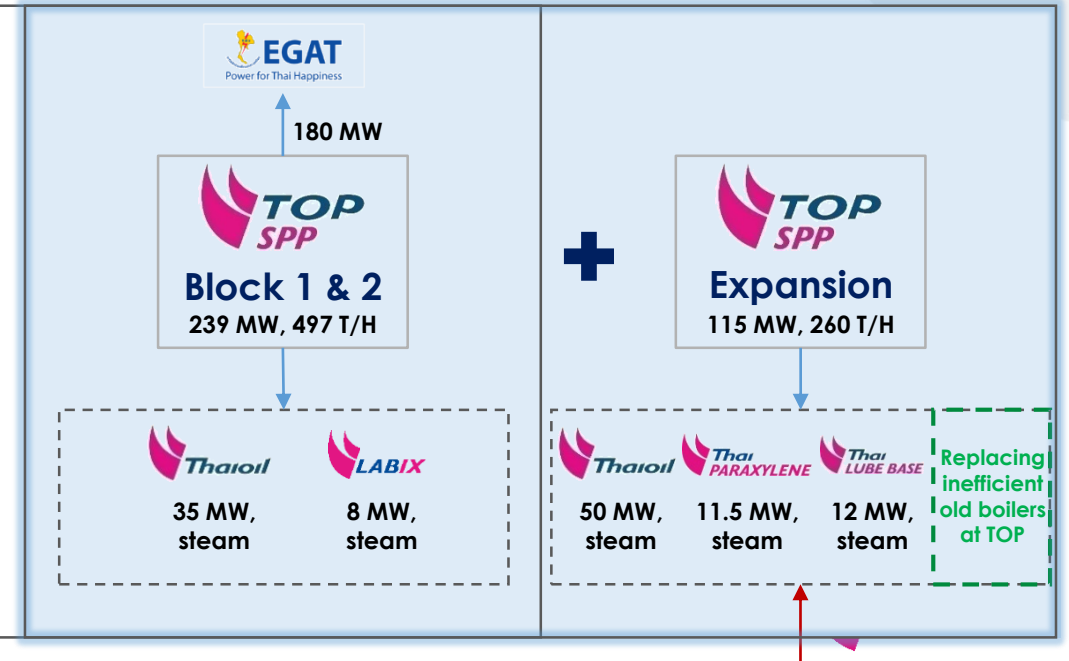
Key Detail of TOP SPP Expansion

Type, Feedstock	SPP, Natural Gas
Capacity	Power 115 MW + Steam 260 T/H
CAPEX	~145 m\$
Use of Power & Steam	Internal use for TOP Group and support for future growth
Source of Fund	Internal cash + Shareholder loans
Project Life	25 years
Tax Exemption	Import duty & CIT 3 years
Construction Period	From January 2021 onwards
COD date	Q1 '2023

Existing



After Expansion



Marine Business Restructuring

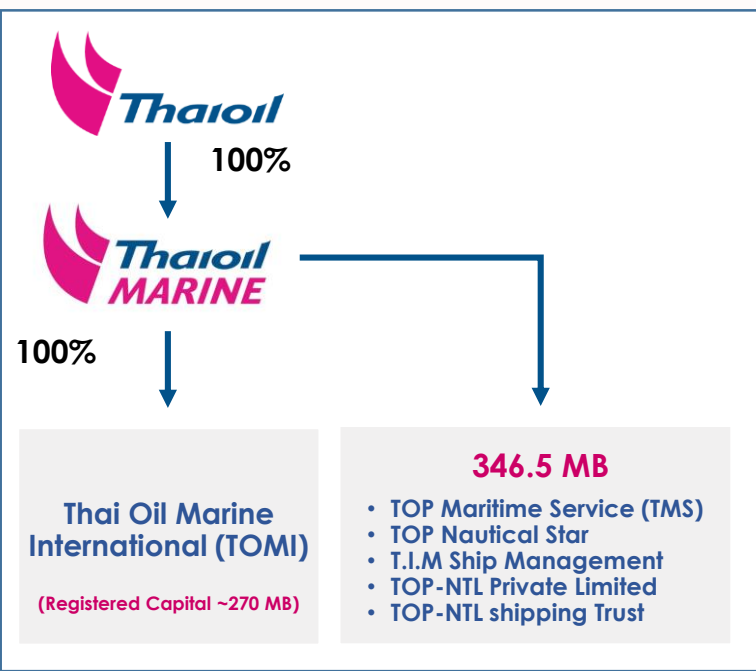
Objective

- Focus on TOP's strategic direction (Refinery, Petrochemical, Power, New Business)

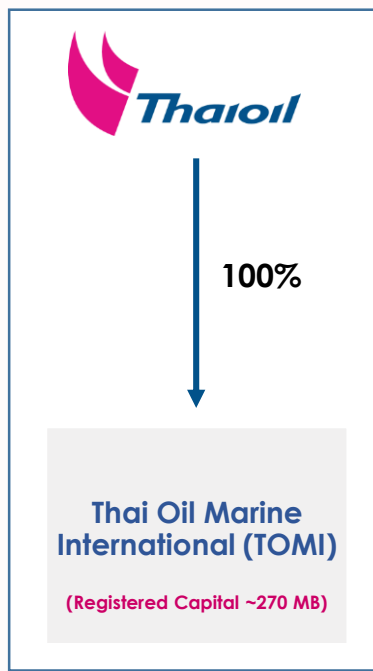
Benefit

- Unique opportunity to capture win-win benefits on both parties i.e. business expertise and stakeholders relation
- TOP can secure VLCC and small vessel via long term contract


Existing Shareholders Structure



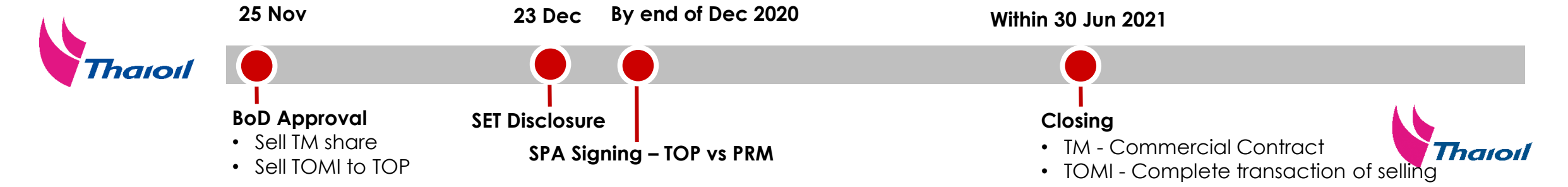
After Restructuring



Transaction Details

- 
- ✓ **Cash & Dividend from selling**
~ **800 MB** (TM 346.5 MB)
 - ✓ **Cash from repaid shareholder loan**
700 MB

Timeline

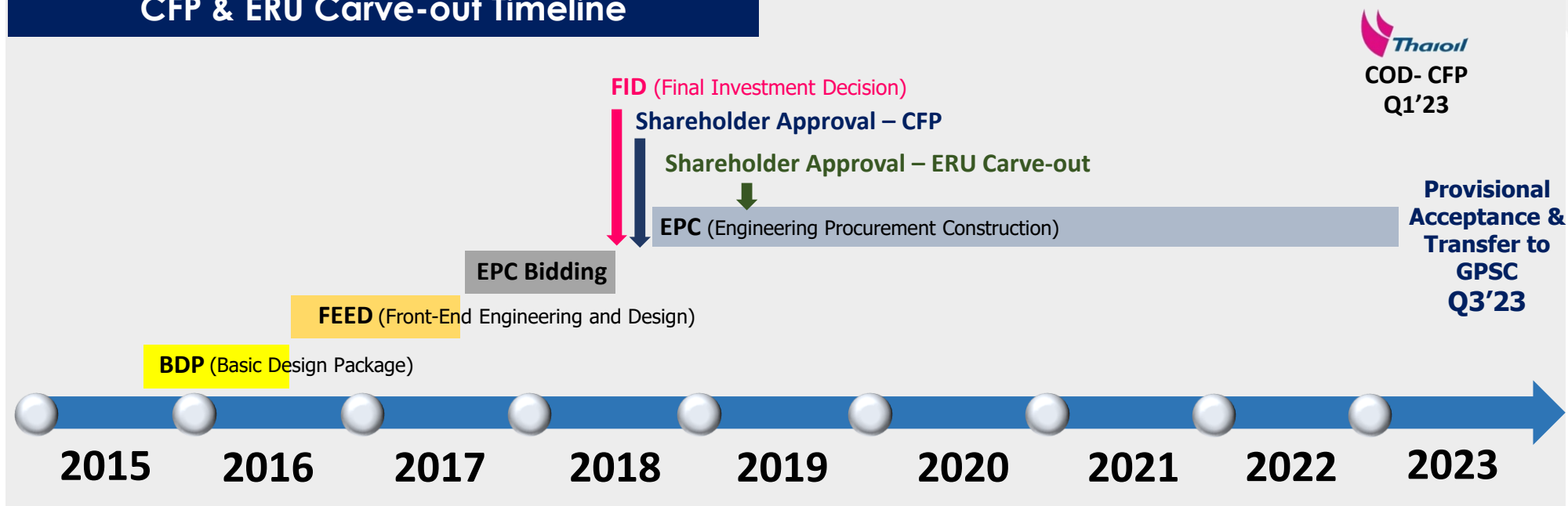


CFP Rationale & Timeline

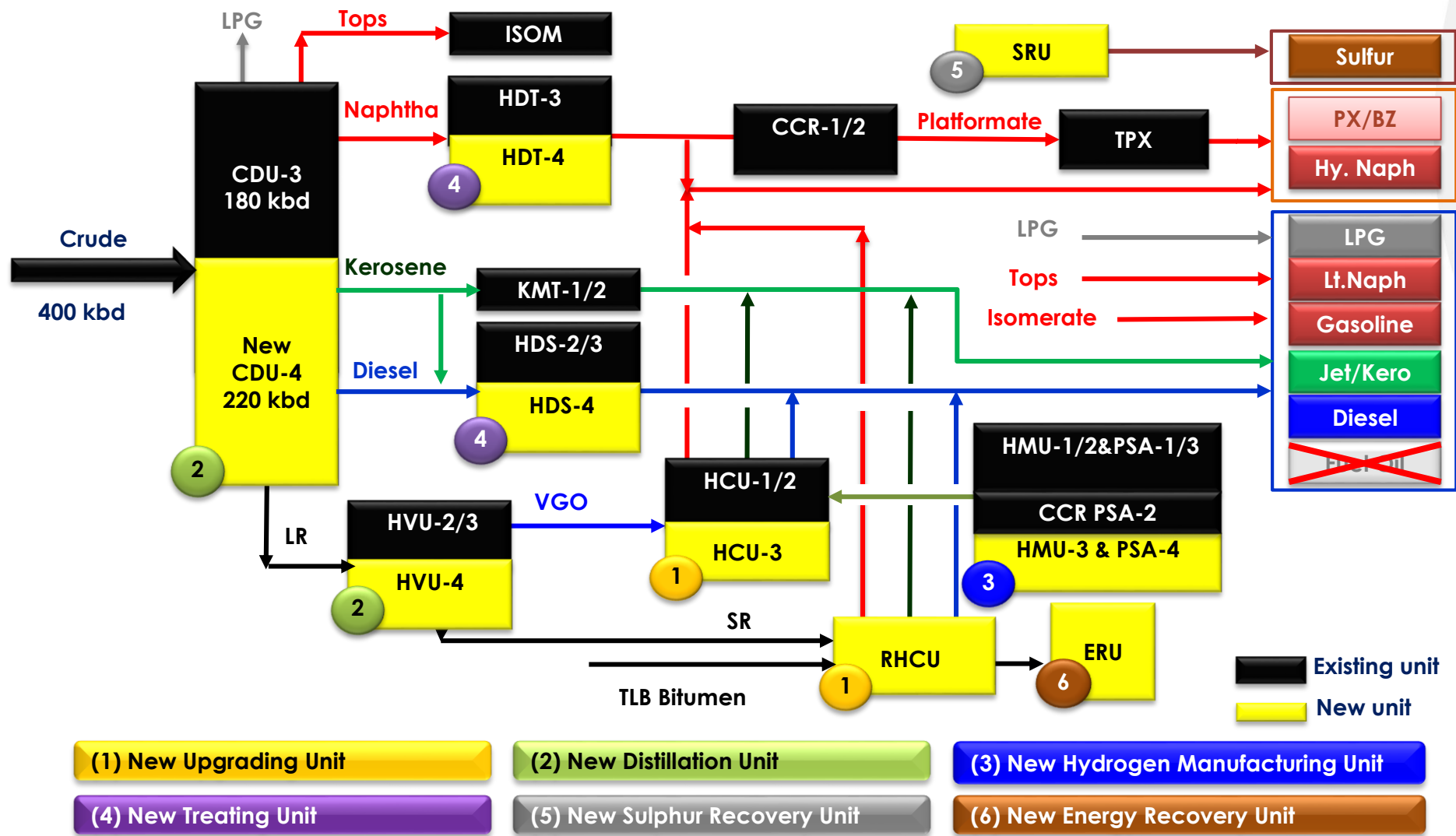
Project Rationale

- 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



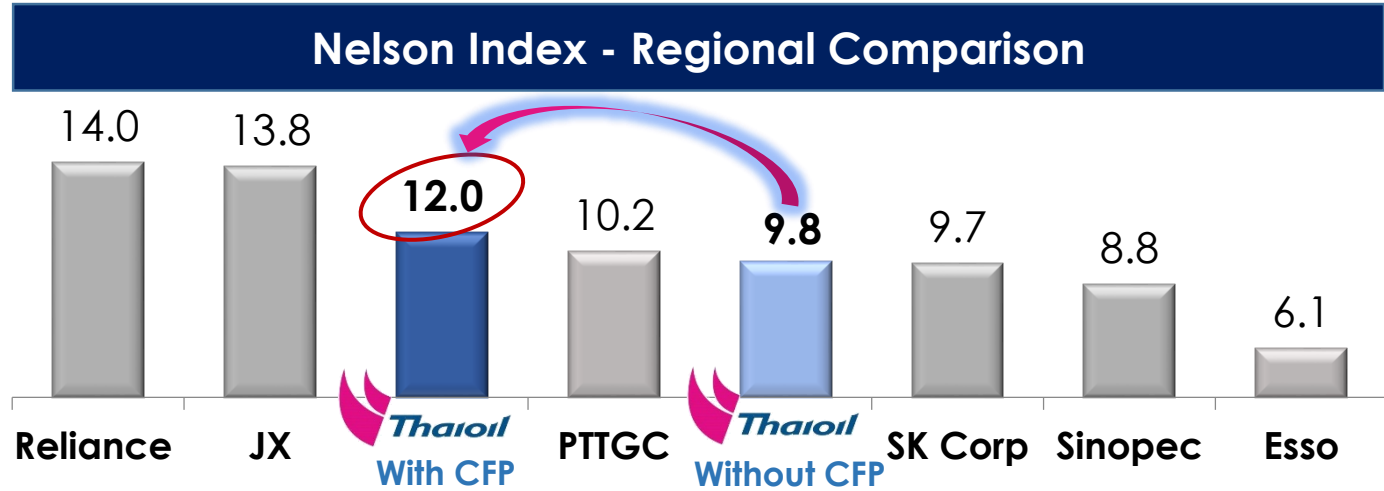
Scope of CFP & Technical Aspect



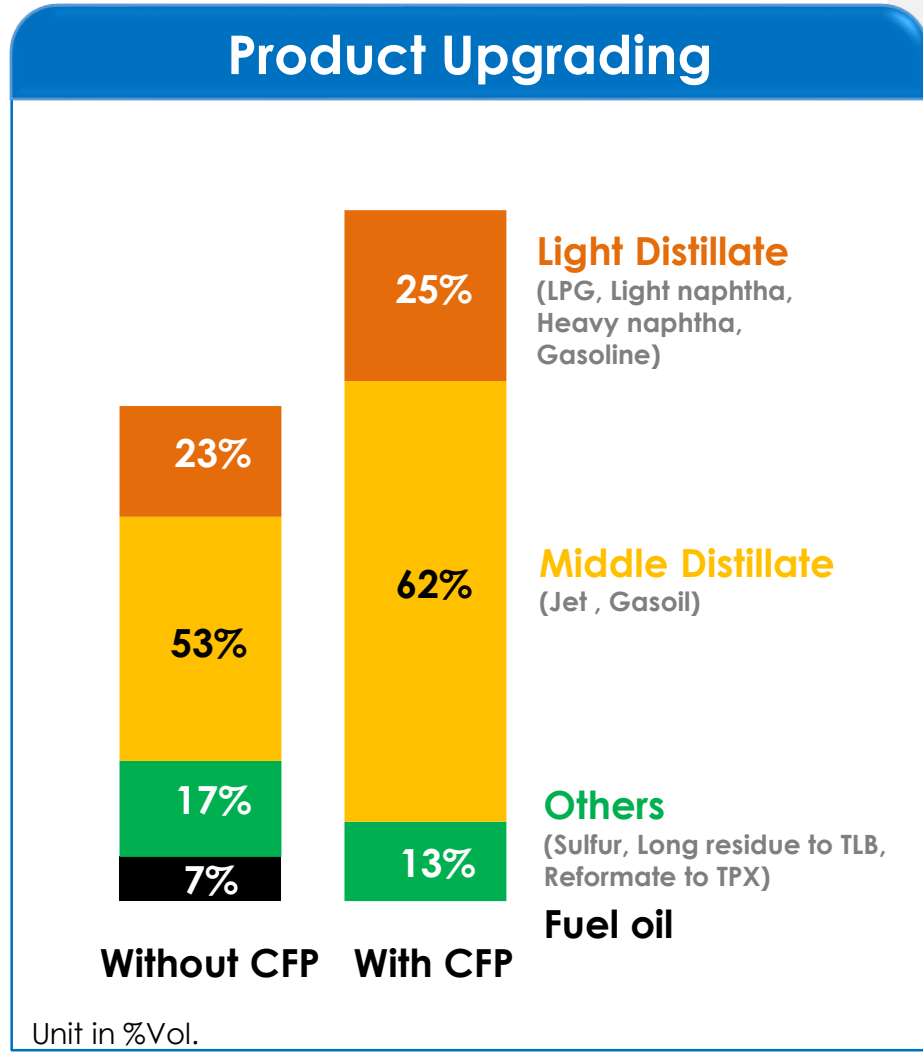
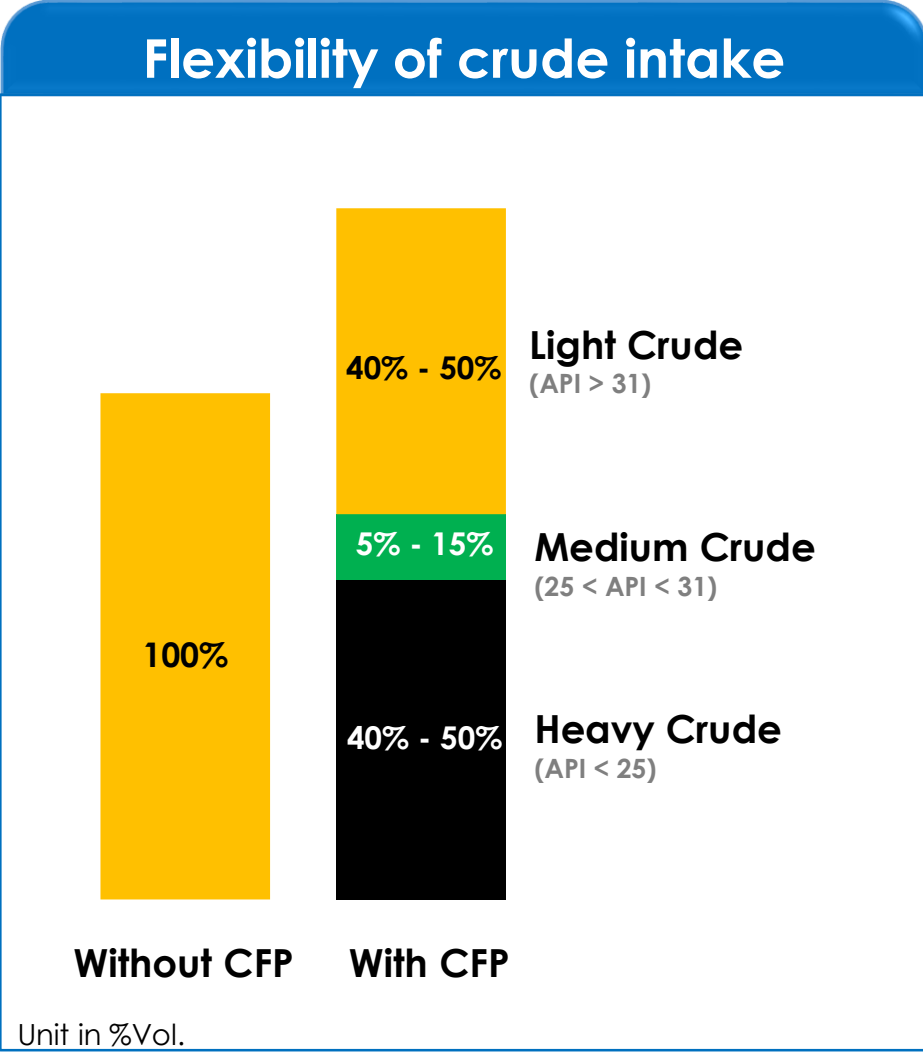
CFP Competitiveness

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

CFP Key Progress

Key Achievements

Foundation Stone
Laying Ceremony

Complete Majority of Piling
& Priority Foundation Work

Commence Equipment &
Module Prepare for installation

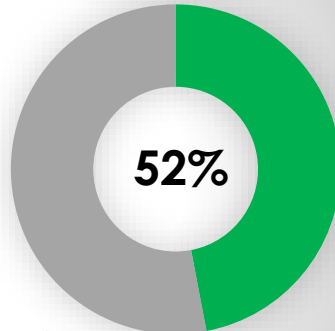
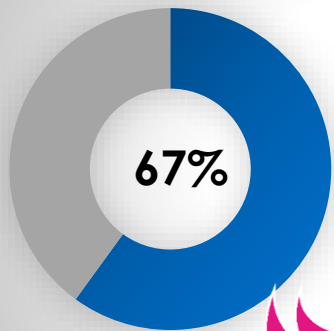
Reactor Delivery / Logistic
Readiness

C-COT & Piperack, New
Priority Tanks



Project Progress

Budget Utilization



As of Mar'21



CFP Progress in 2021

- Complete engineering work and focus with construction work at site.
- Most of critical equipment and module will be delivered and installed at site.
- Construction work will be key activities in 2021
- Continue stringent COVID-19 pandemic preventive measures at construction site

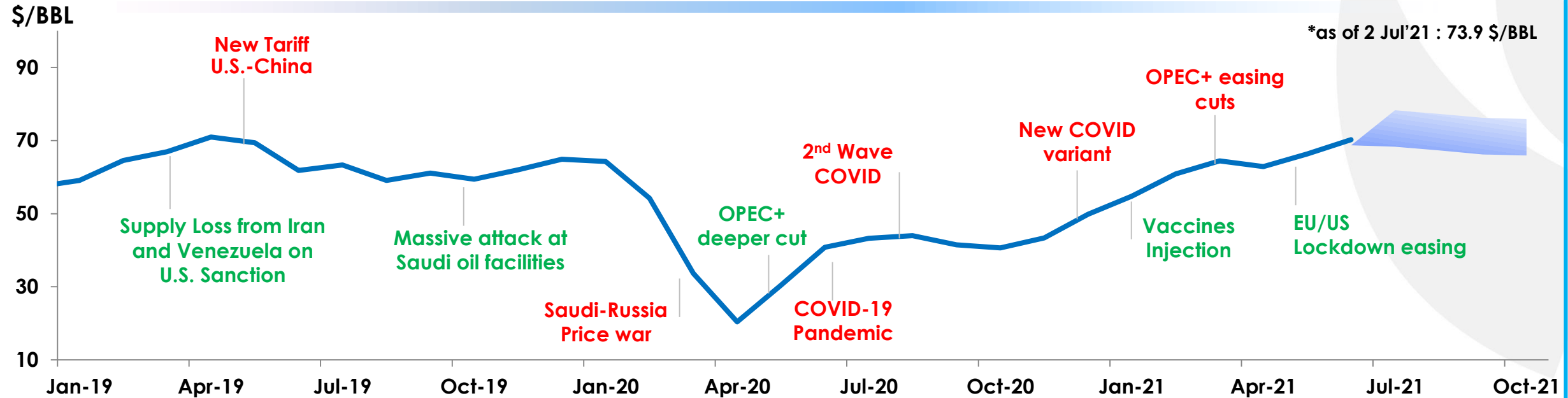


2H/21 OUTLOOK

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

CRUDE OIL MARKET OUTLOOK

Dubai Prices Movement

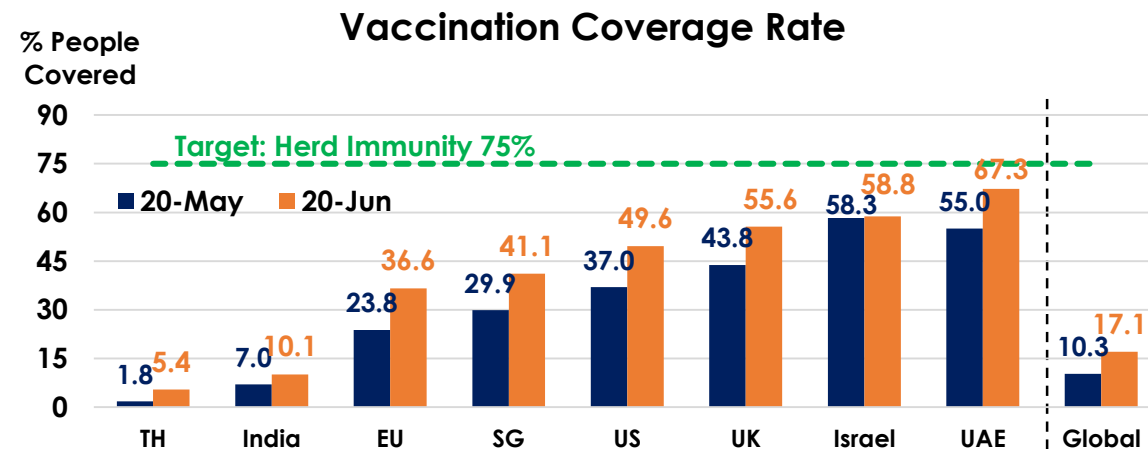
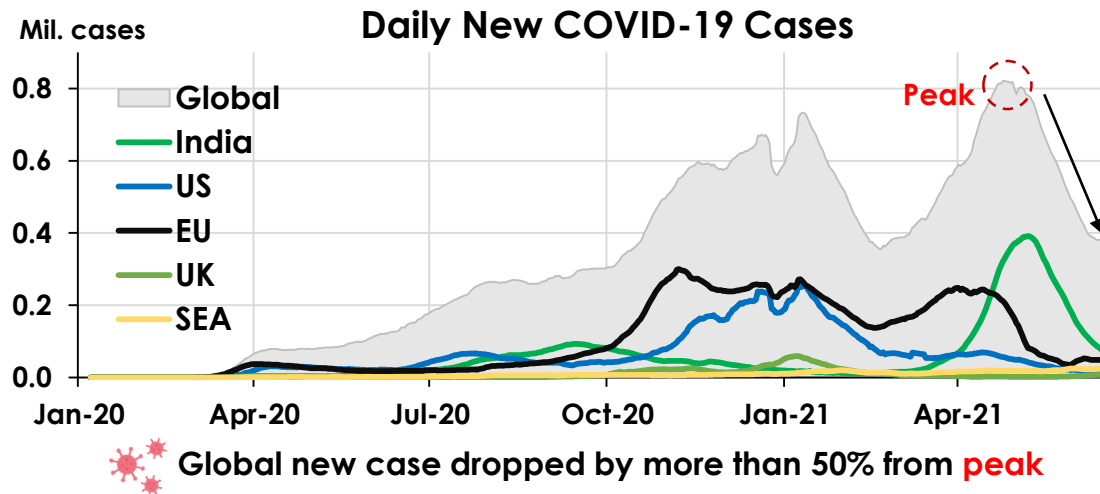


Key Highlights 2021

- 1 Recovering Economic Activities from Better COVID-19 Situation
- 2 Improving Demand Especially in EU/US and Higher China's Crude Imports
- 3 Higher Supply from OPEC+ and Potential Return of Iran/US Supply
- 4 Expectation of Balance Crude Market to Stabilize Oil Price

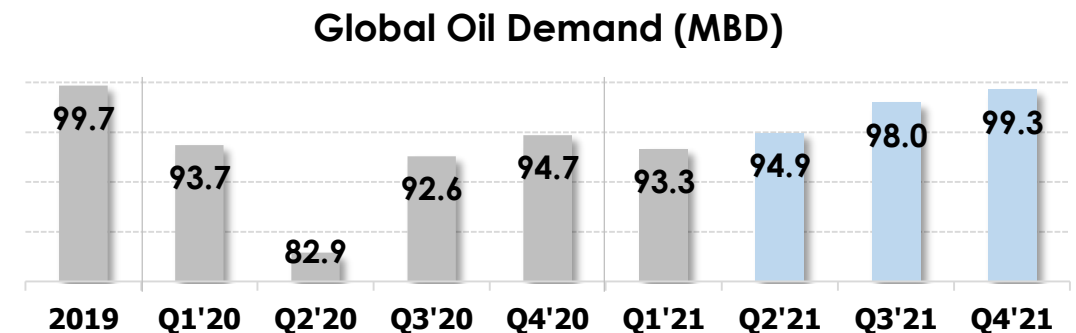
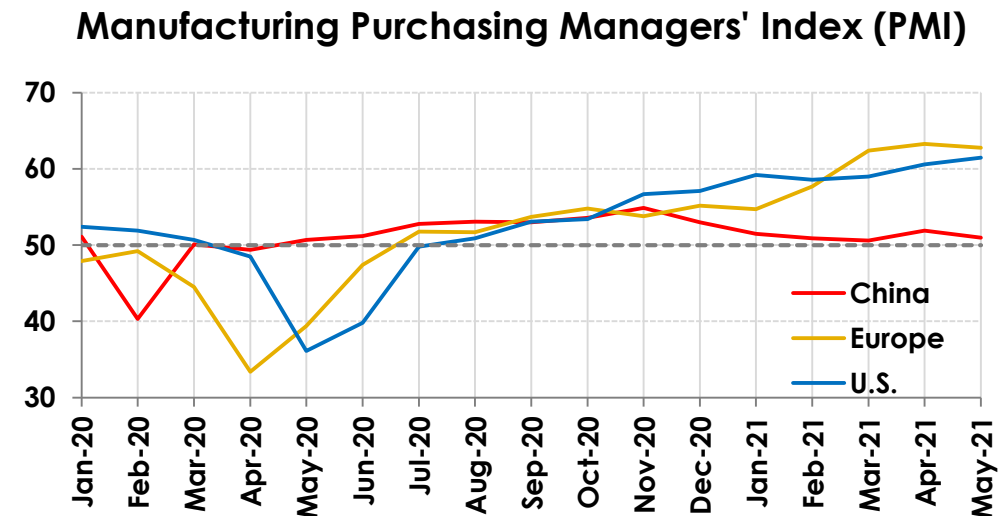
1 Recovering Economic Activities from Better COVID-19 Situation

A Lower COVID-19 Cases Following Vaccines Progress



Source: WHO, Bloomberg (Jun'21)

B Improving Economics to Support Oil demand

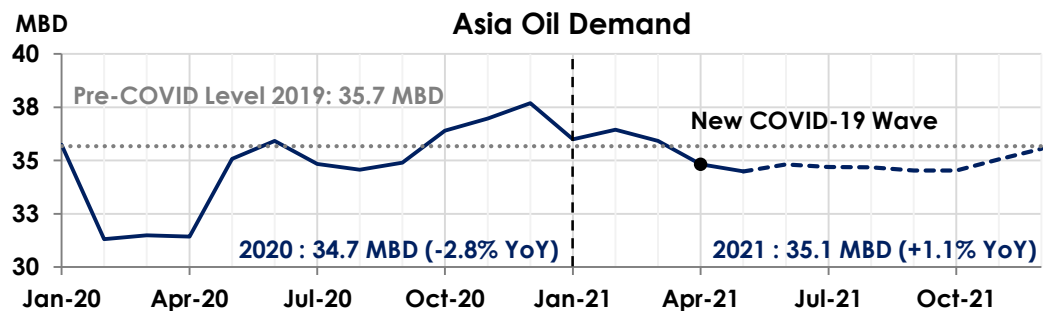
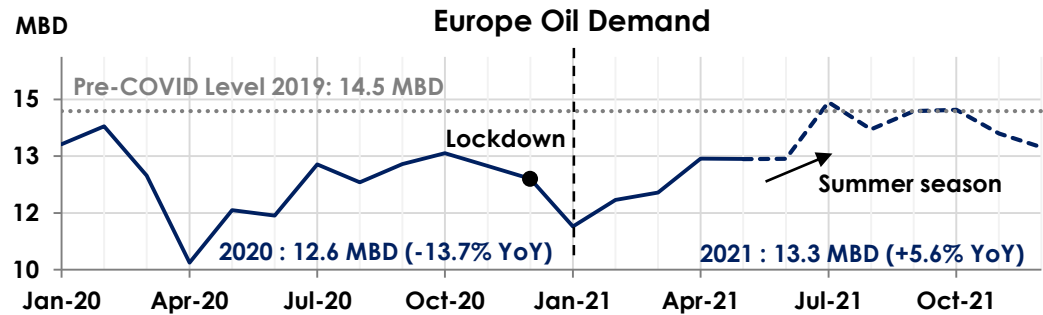
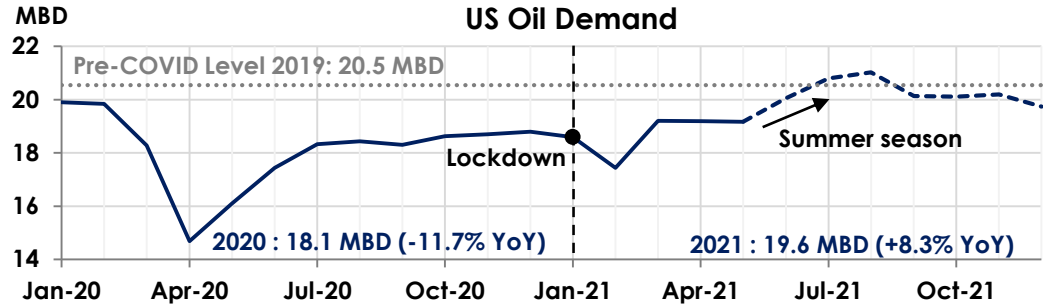


Improved Economic Activities in U.S./EU/China from easing movement restrictions to support oil demand

Source: Markit Economics, IEA(Jun'21)

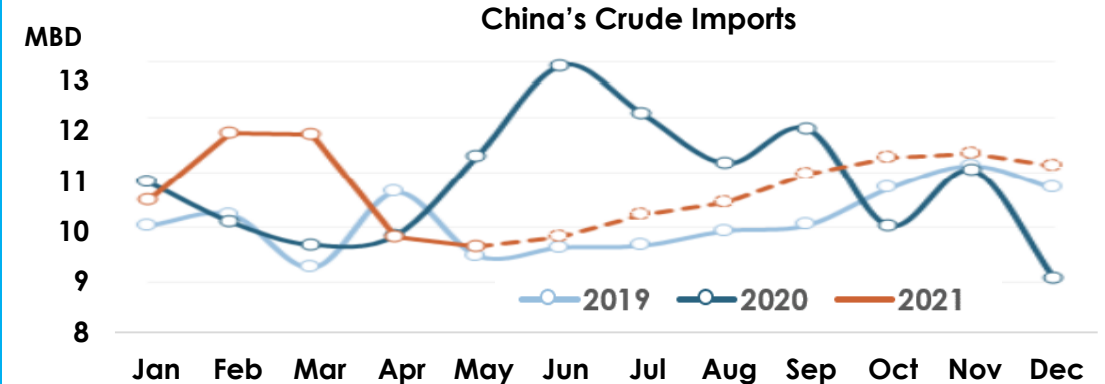
2 Improving Demand Especially in EU/US and Higher China's Crude Imports

A Expectation of Demand Recovery in Q3 and Q4

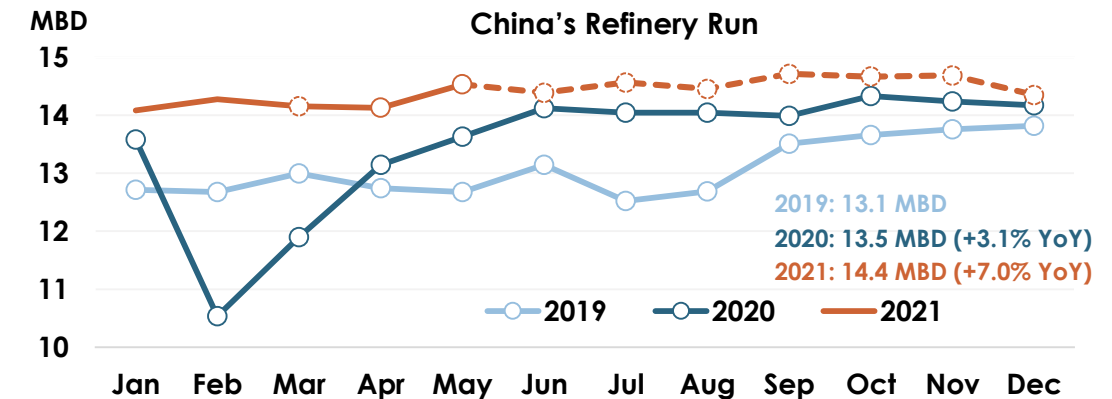


Source: Energy Aspects (Jun'21)

B Higher China's Crude Imports on New Import Taxes Policy



Expectation China's crude imports to be **increase by 1.2 MBD in 2H'21 vs. Q2'21** to meet the domestic demand requirement



Higher China's refinery run from **lower imported components** following **new consumption taxes** implementation

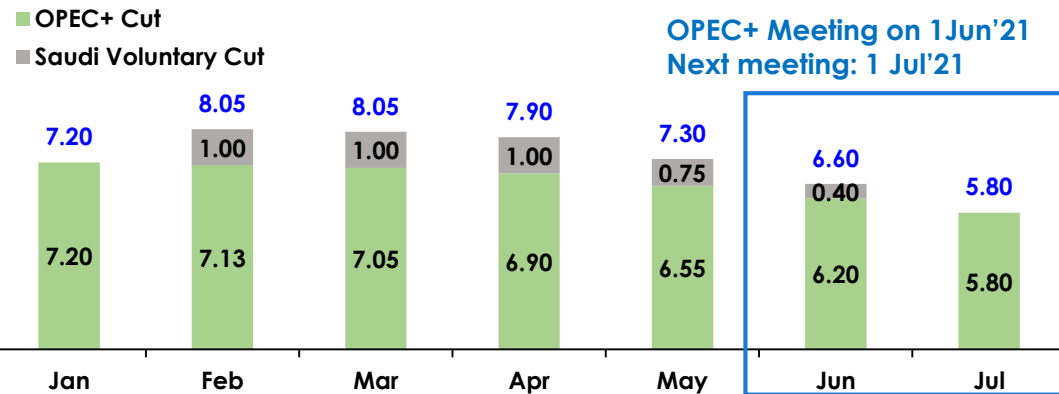
Source: Energy Aspects, FGE (Jun'21)

3

Higher Supply from OPEC+ and Potential Return of Iran/U.S. Supply

A Expectation of Gradually Higher Supply from OPEC+

2021 OPEC+ Supply Cut Agreement (MBD)

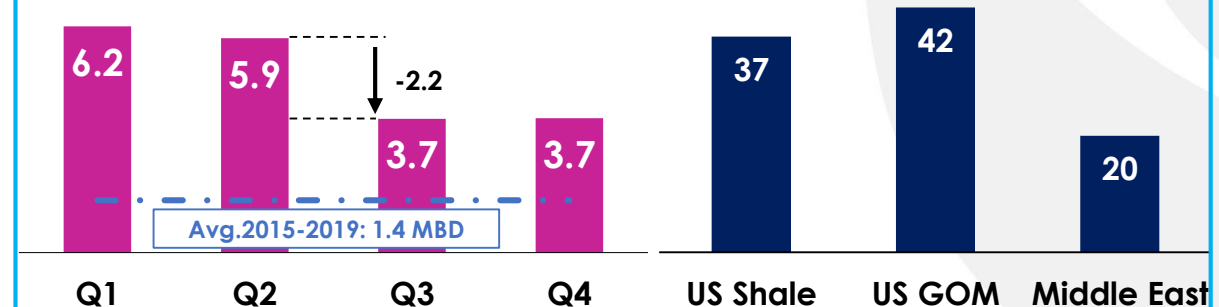


Source: OPEC (Jun'21)

B High Spare Capacity amid Low Production Cost

OPEC Spare Capacity (MBD)

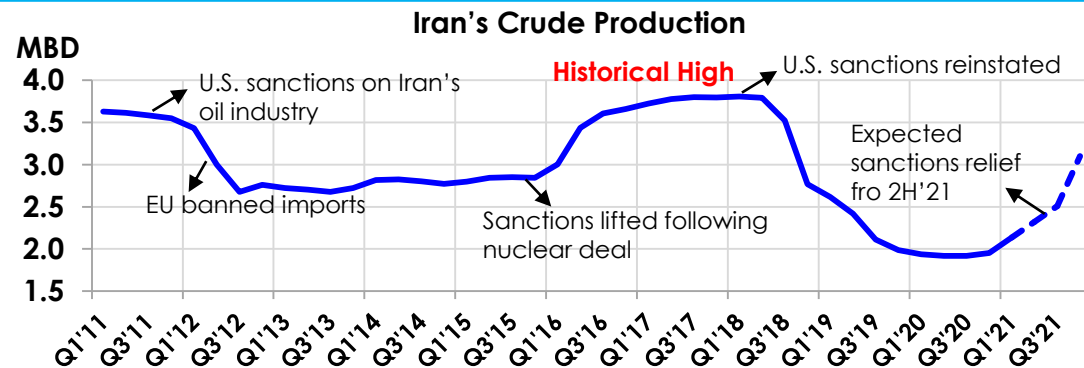
Production Cost (\$/BBL)
(estimated as of Jan'21)



Source: Platts, Energy Aspects(Jun'21)

Source: Reuters, OPEC, Platts (Jan'21)

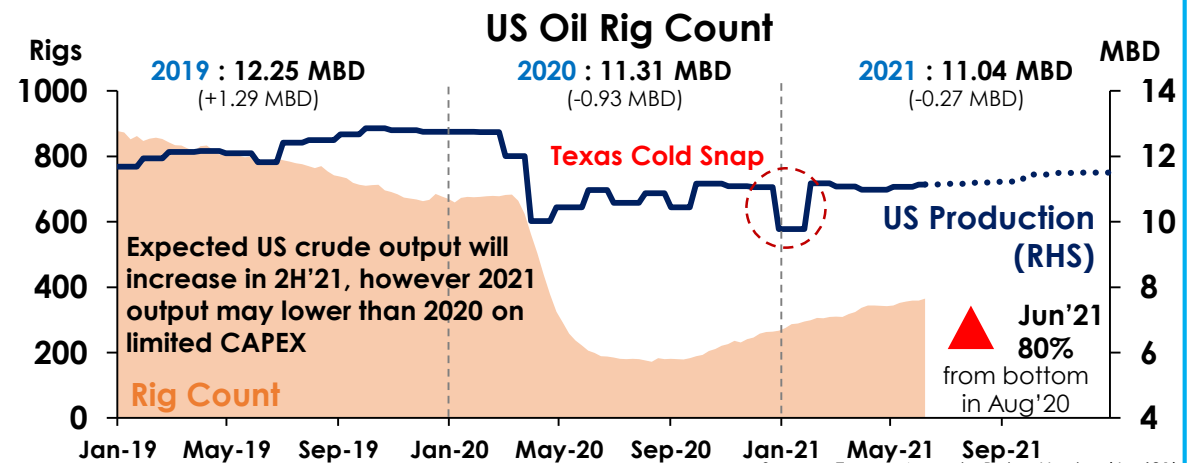
C Potential More Supply on Iran's Nuclear Deal Progress



- Iran's nuclear talks have shown a positive sign after Iran's new elected president **Ebrahim Raisi** has expressed **willingness to revive the deal**.
- Analysts expect Iran's crude output could rise to **about 3.5 MBD from 2.4 MBD**.

Source: Reuters (Jun'21)

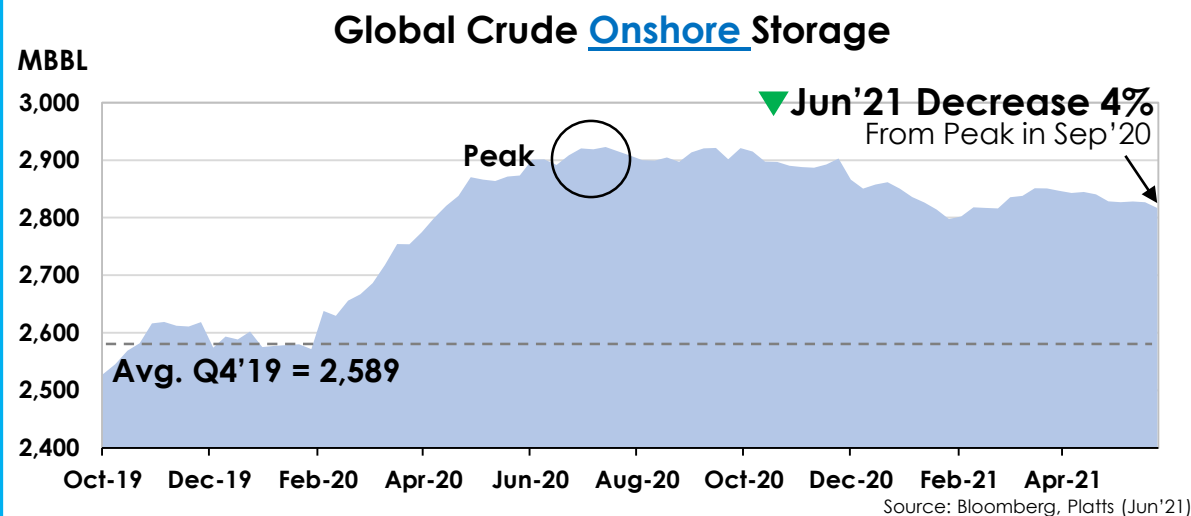
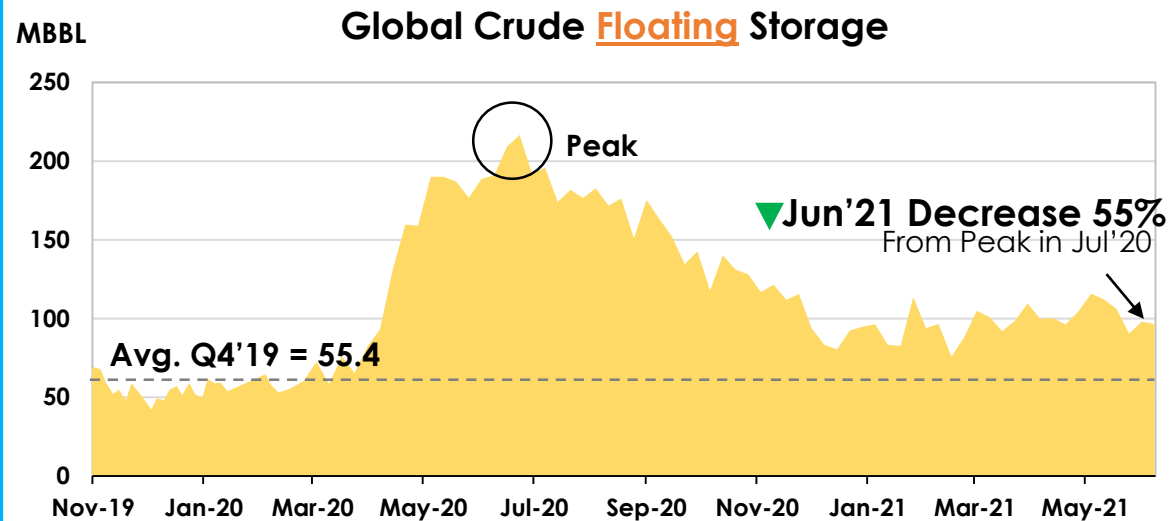
D Slightly Increase in U.S. Supply from Higher Rig Count



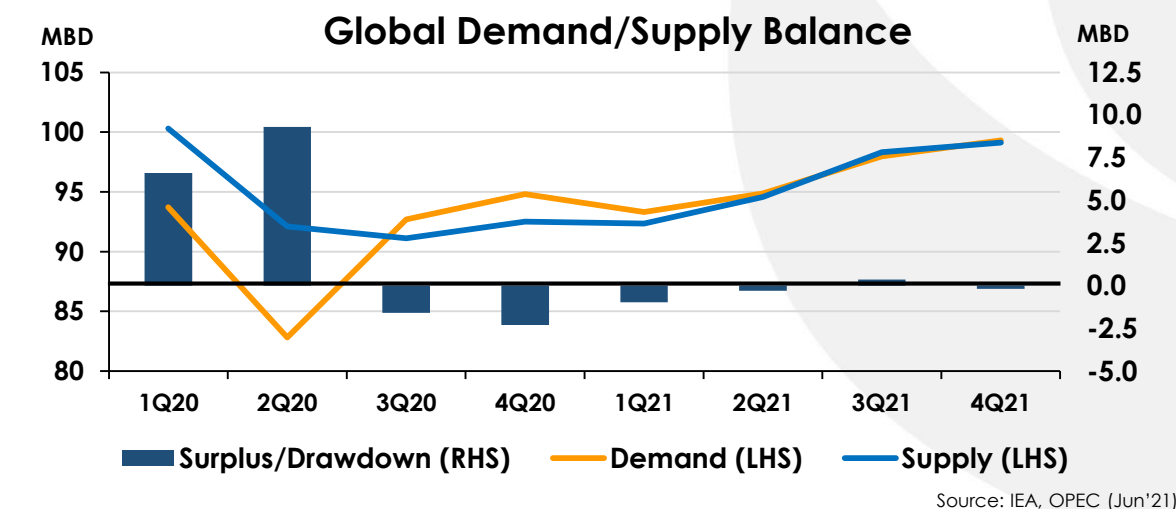
Source: Energy Aspects, Baker Hughes(Jun'21)

4 Expectation of Balance Crude Market to Stabilize Oil Price

A Lower Global Crude Storage from Peak



B Expectation Balance Crude oil Market



C ICE Brent Forecast by Publication

ICE Brent (\$/BBL)	2H'21	2021	2022
Platts (Dated Brent)	68	66	63
Barclays		66	71
IHS Markit	63	63	62
JP Morgan	70	68	70
Citi		68	
UBS	75	73	

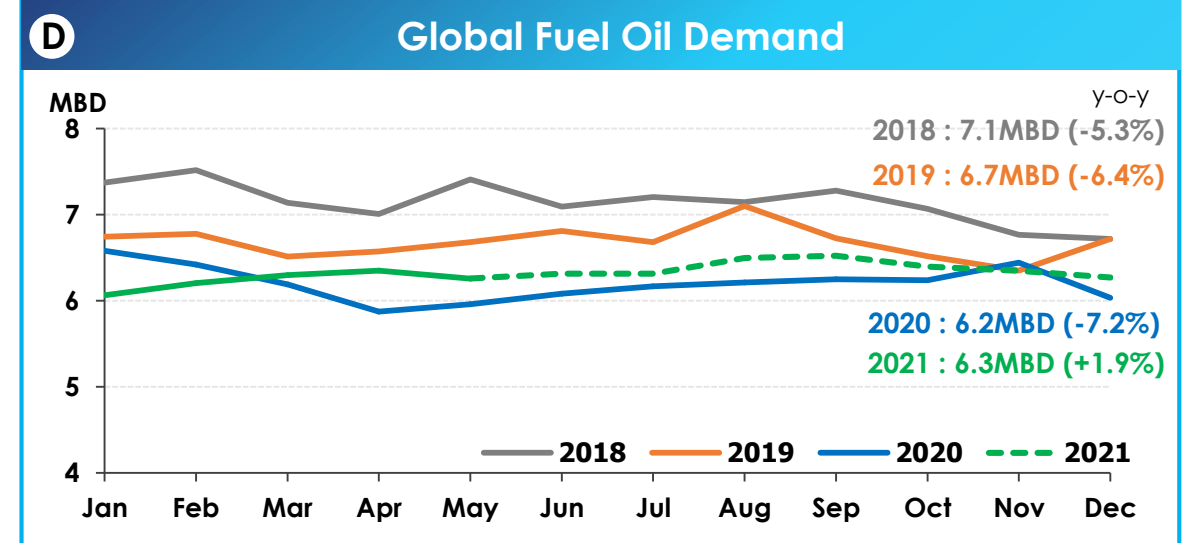
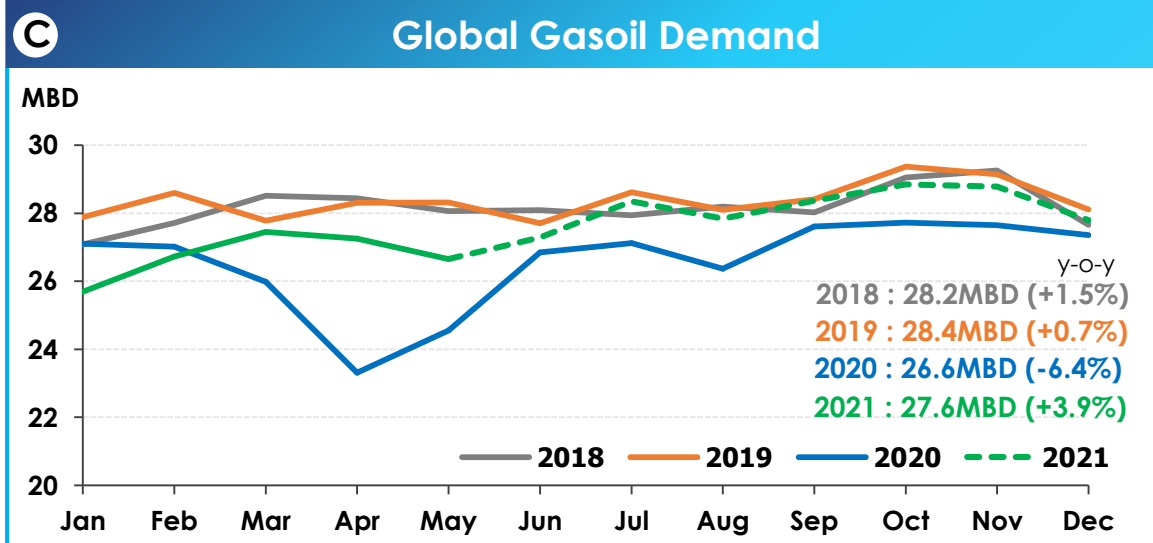
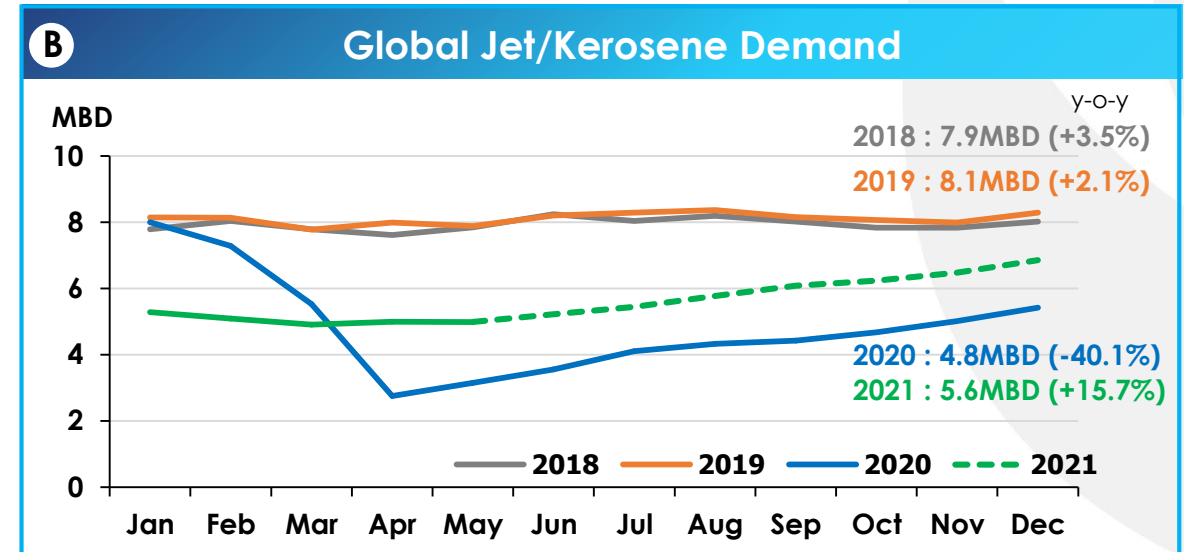
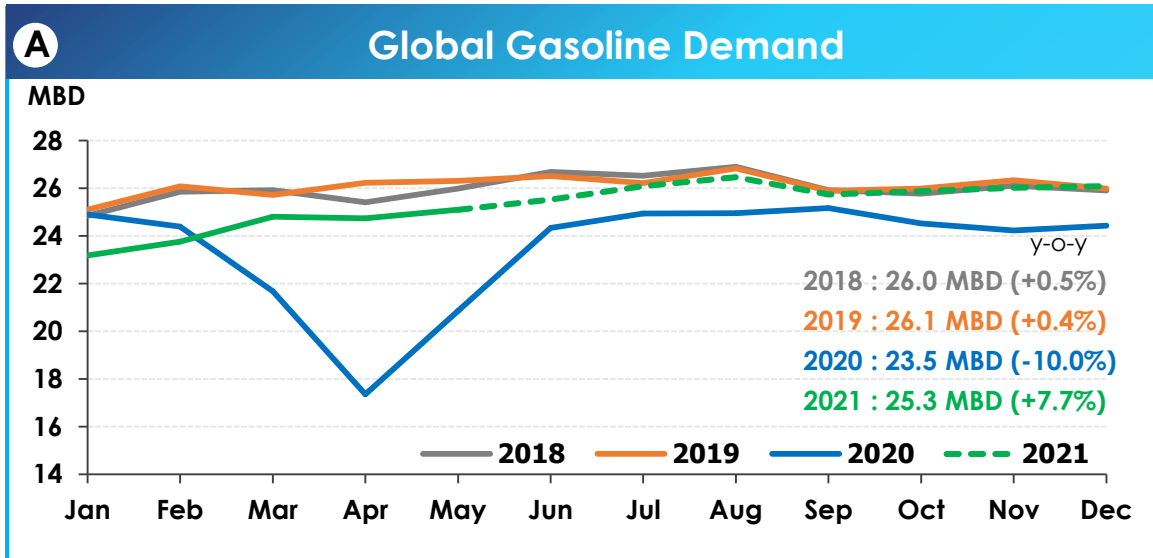
Publications forecast crude oil price will remain at \$63-\$73/BBL in 2021 following balanced crude market.

Note: Forecast as of 1'Jun 21

Source: Platts, Reuters (Jun'21)

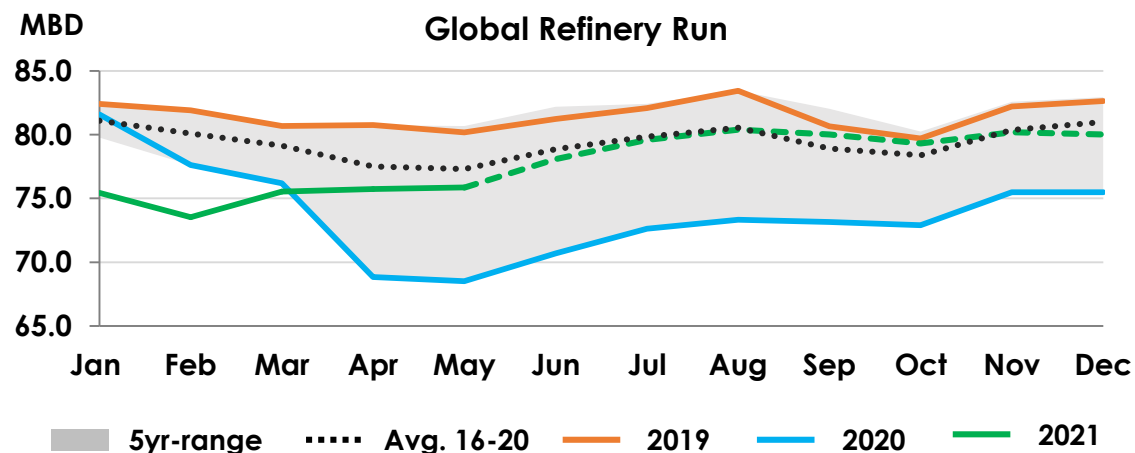
Petroleum Market Short Term Outlook

Recovering Petroleum Demand to Pre-COVID-19 Level by End 2021, Except Jet



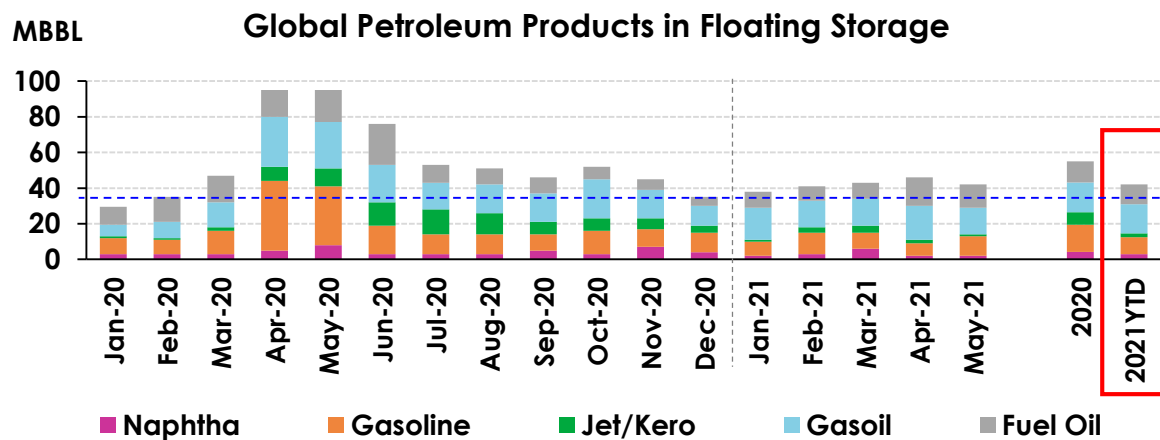
Recovering Product Demand to Support Refinery Run and Drawdown Inventory Levels

A Rising Refinery Run on Expected Recovering Demand



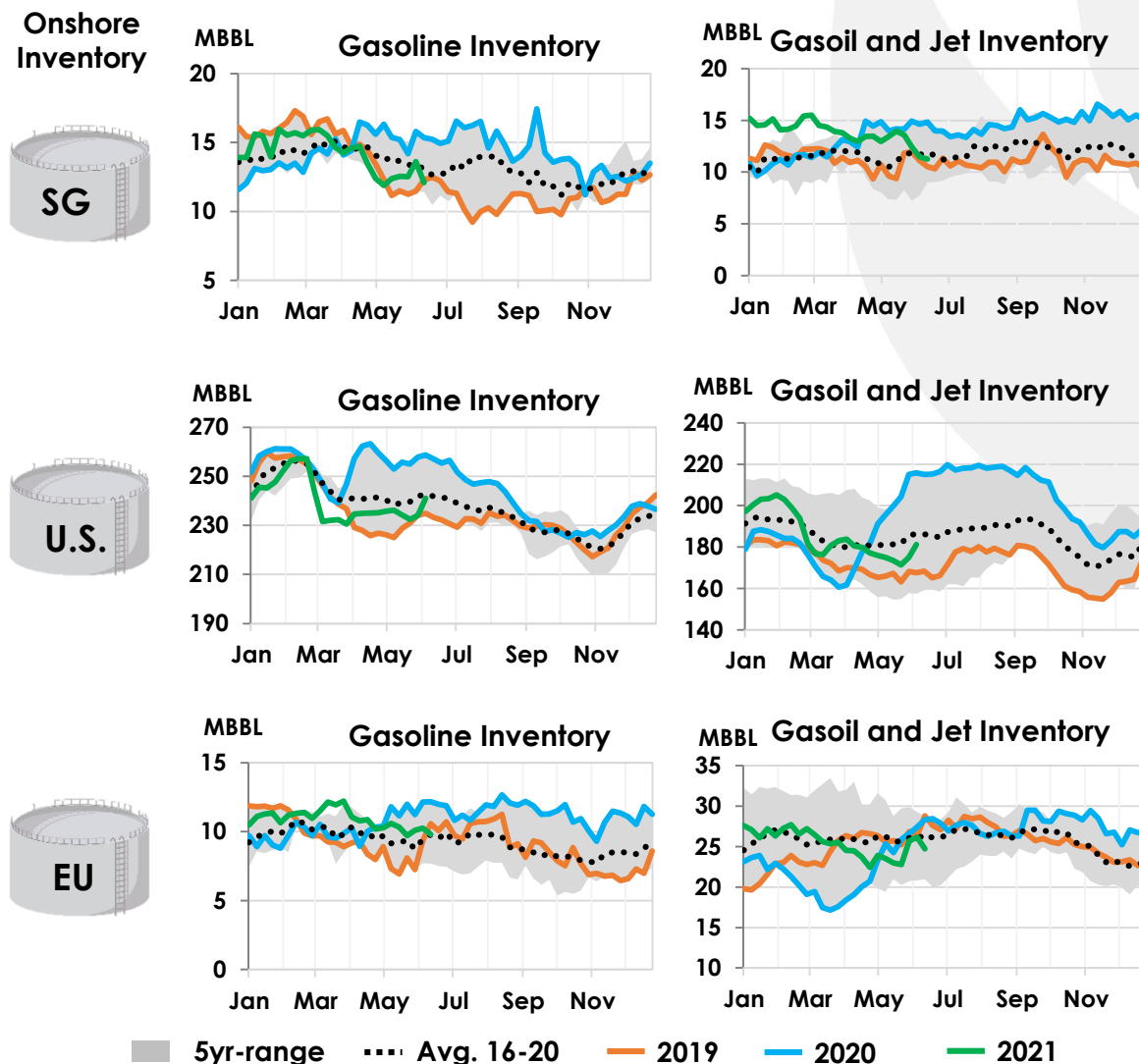
Source: Energy Aspect (Jun'21)

B Lower Floating Storage to Closer Pre COVID Level



Source: FGE, Vortexa and Platts (Jun'21)

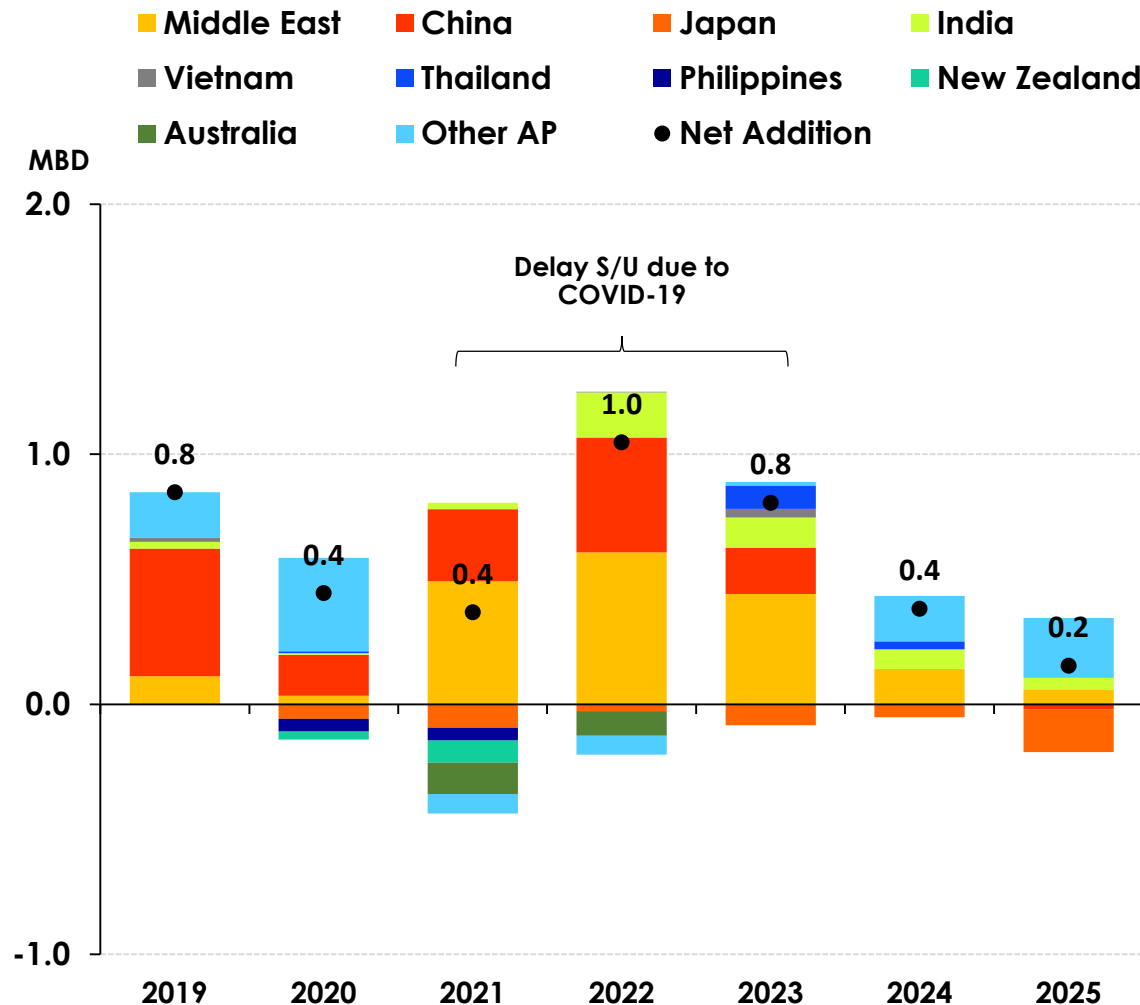
C Product Inventory in Major Hubs to Stay in 5 Years Avg. Level



Source: Reuters (Jun'21)

New Refinery Addition to Come Online after COVID-19 Relief

Asia Pacific and Middle East Effective CDU Addition



Key Projects : New Addition

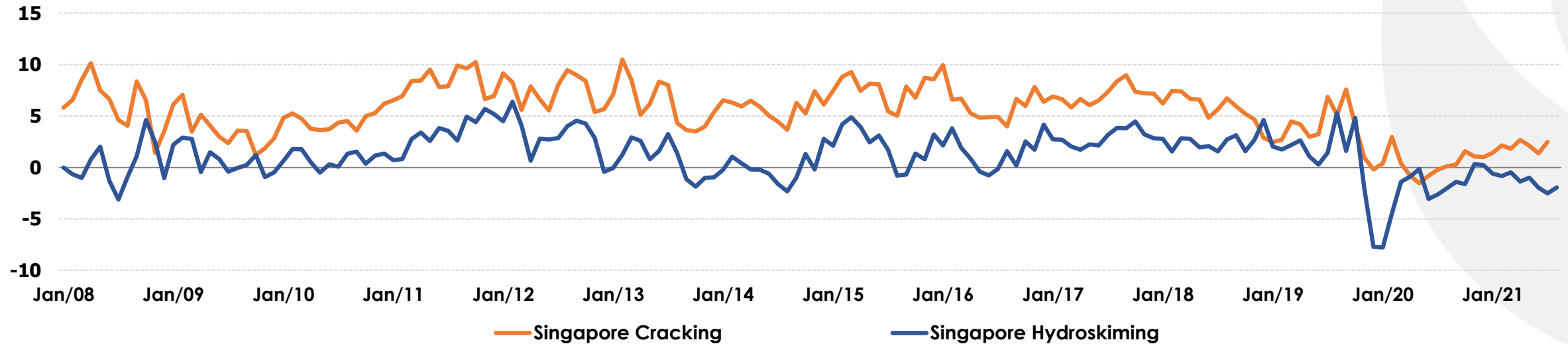
Country	Company	CDU (KBD)	Start-up
China	Sinopec Zhanjiang	200	Q2'20
Kuwait	KPC	171	Q2'20
China	Rongsheng II	400	Q2'21
Saudi Arabia	Jizan	400	Q2'21
China	Local Shenghong Petrochemical	320	Q4'21
India	Hindustan Petroleum	125	Q1'22
Kuwait	Al Zour	615	Q2'22
China	CNPC/PDVSA	400	Q3'22
Thailand	Thai Oil	125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

Key Projects : Closure

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

Improving Demand on Increasing Economic Activities after the Progress in Vaccination

Singapore Cracking GRM (\$/BBL)



(\$/BBL)	Q2-20	Q3-20	Q4-20	2020	Q1TD-21	Q2-21	Q3TD-21*
ULG95-DB	2.6	4.5	4.1	4.4	7.2	9.9	11.6
JET-DB	0.0	(0.8)	2.5	2.5	3.2	4.5	3.9
GO-DB	5.8	4.1	3.7	6.1	4.7	5.3	5.0
HSFO-DB	(1.5)	(2.5)	(0.6)	(3.0)	(3.5)	(5.8)	(6.2)

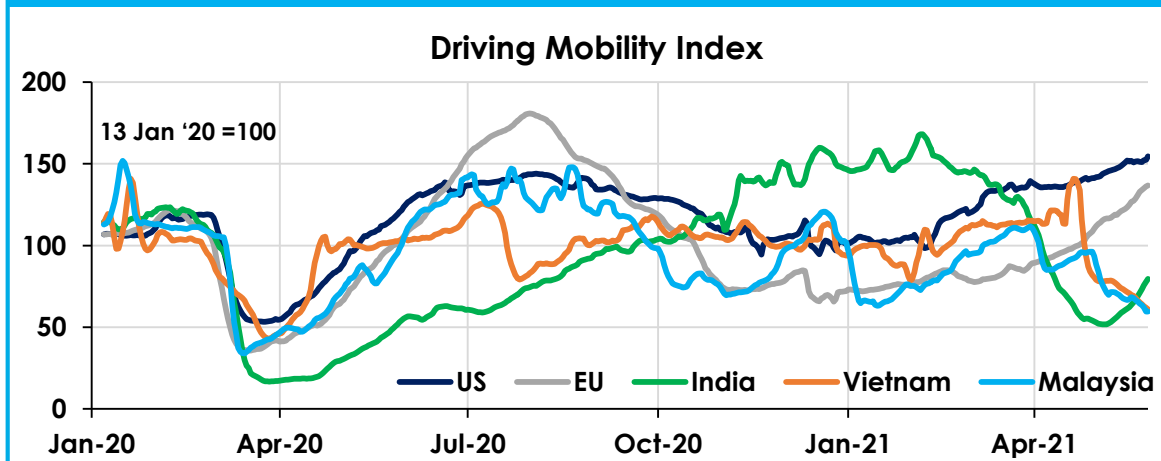
Remarks: Q3TD-21 as of 2 Jul' 21

Key Highlight

- Improving Gasoline Demand Driven by Easing Lockdown and U.S. Driving Season
- Higher Jet Demand following Tourisms Recovery due to the Progress of Vaccination
- Rising Gasoil Demand on Rising Economic Activity
- Increasing Fuel Oil Demand for Power Sector and Bunker Fuel amid Rising Supply

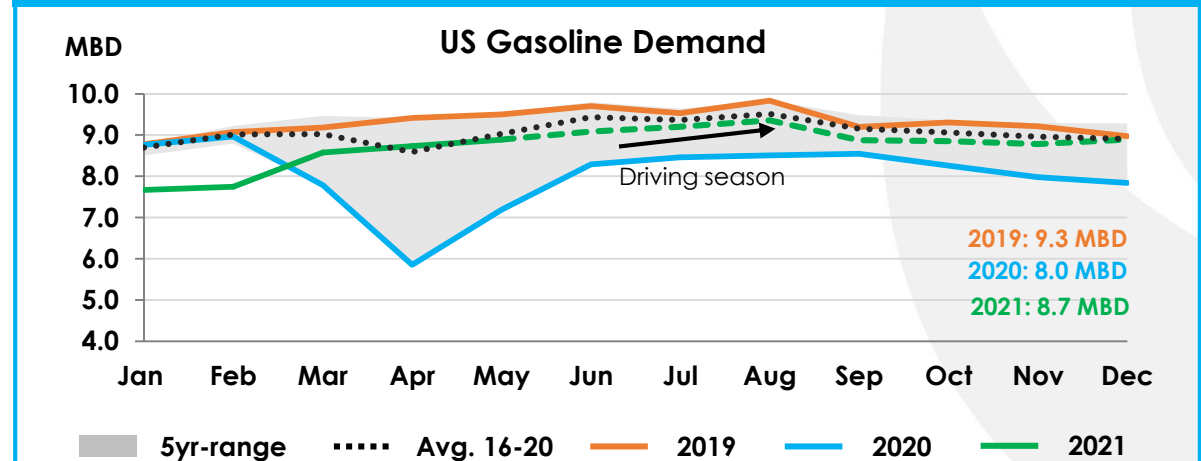
Improving Gasoline Demand Driven by Easing Lockdown and U.S. Driving Season

A Improving Driving Activities in US&EU amid Slowing in Asia



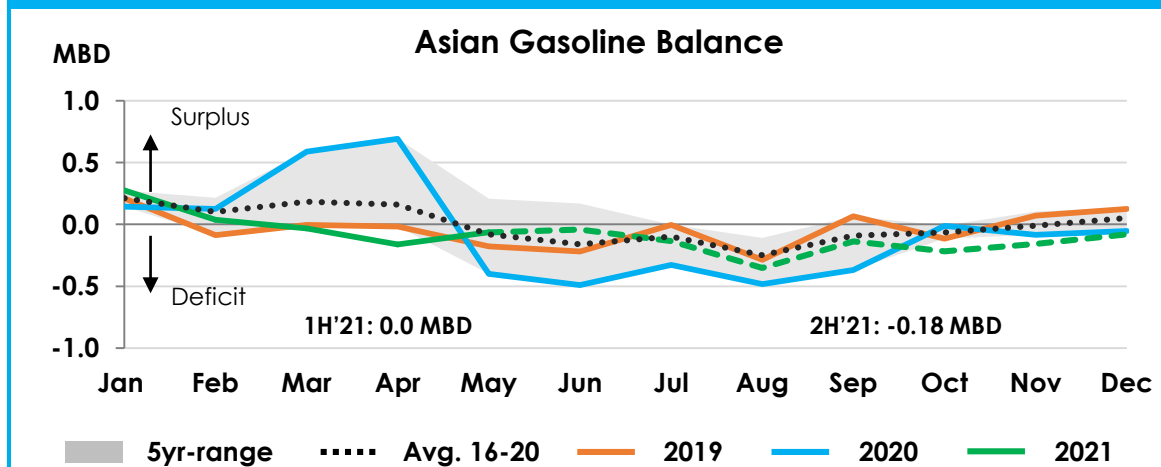
Source: Apple Mobility Index (Jun'21)

B Higher U.S. Gasoline Demand during Summer Season



Source: FGE (May'21) and Energy Aspects (Jun'21)

C Shorter Asian Supply in 2H'21 on Improving Demand



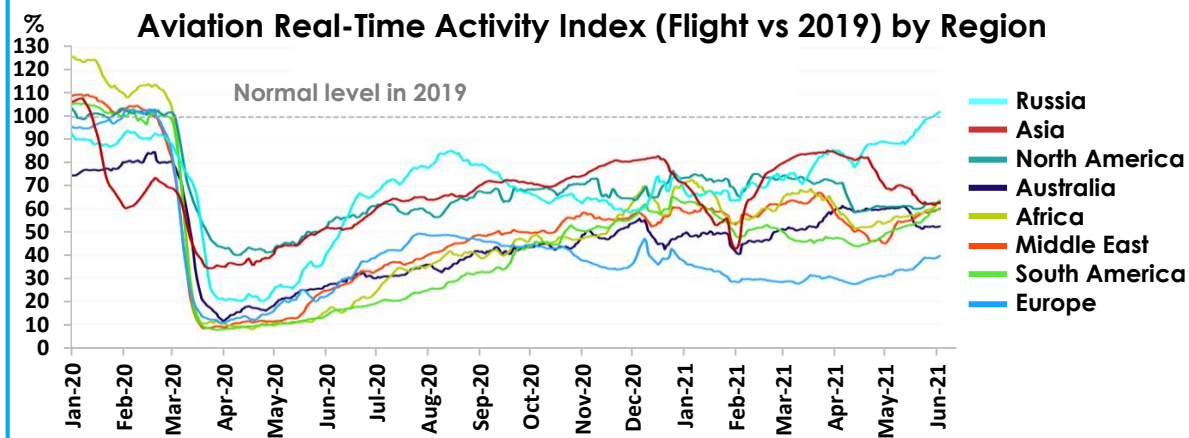
Source: FGE (May'21)

Key Highlight

- Rising driving activity in the U.S. and Europe on vaccination progress and summer season
- Recovering Asian gasoline demand on easing lockdown/social restriction measures especially in 2H'21

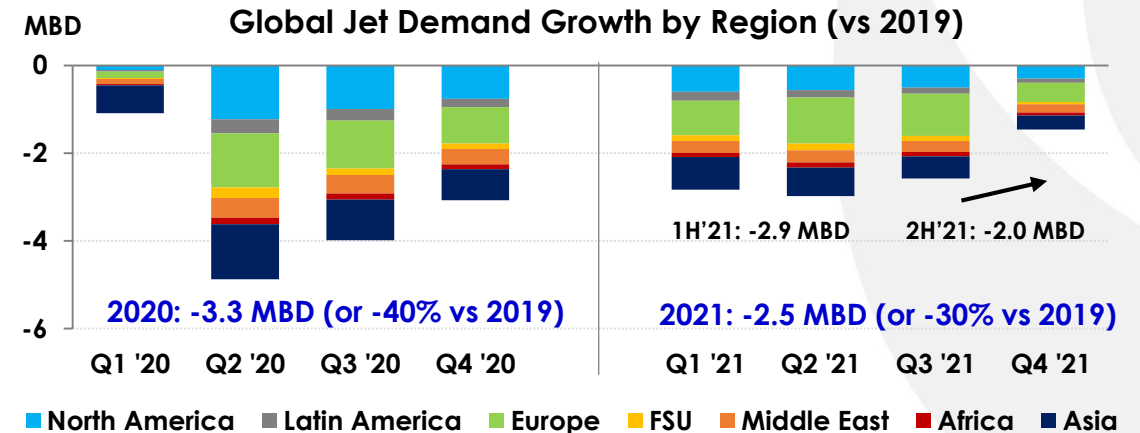
Higher Jet Demand following Tourisms Recovery due to the Progress of Vaccination

A Rising Aviation Activity on Easing Restriction Except Asia



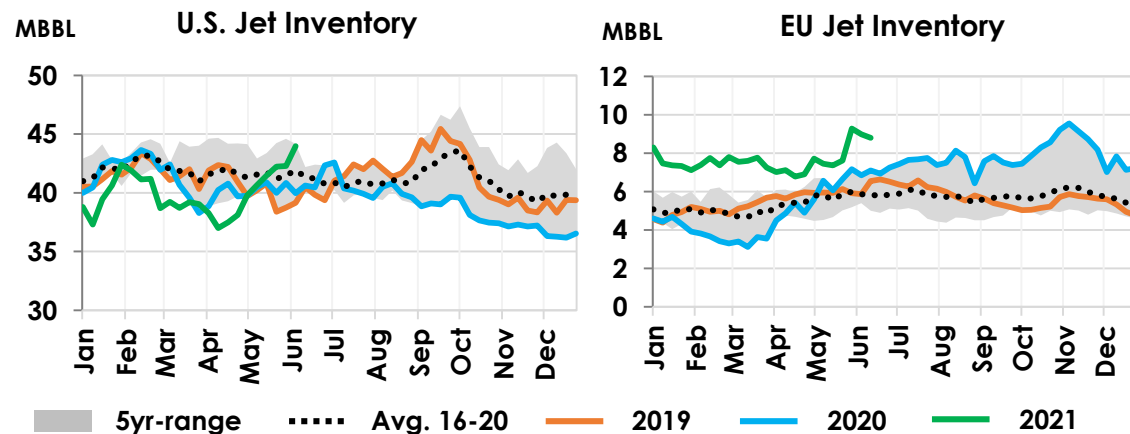
Source: Rystad (Jun'21)

B Jet Demand to Improve in 2H'21 on Traveling/Winter Season



Source: Energy Aspects (May'21)

C Higher US and EU Jet Stock on Increasing Refinery Operation



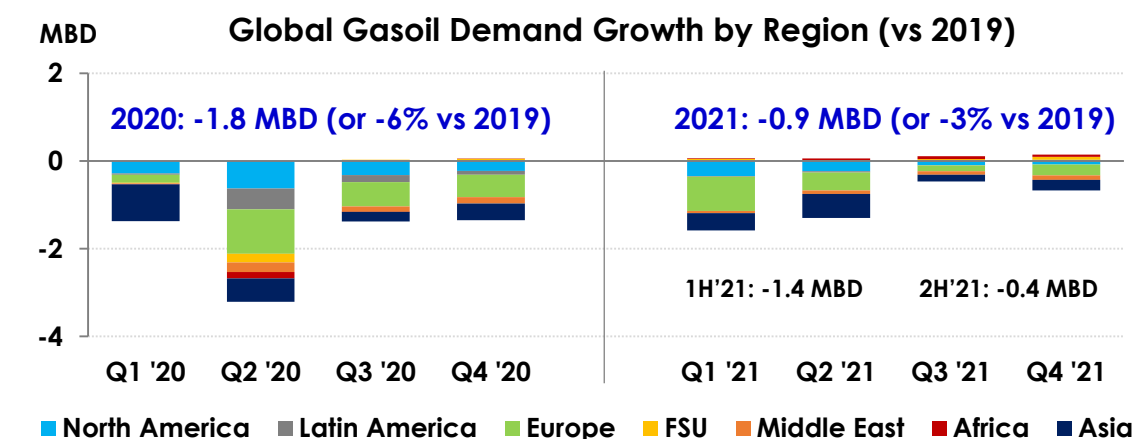
Source: Reuters (Jun'21)

Key Highlight

- Higher flights traffic following tourism's recovery due to the progress of vaccination
- Improving international flight movement on reopening border controls
- Rising heating oil demand to boost kerosene market in Q4'21
- Remaining high Jet stock to limit upside

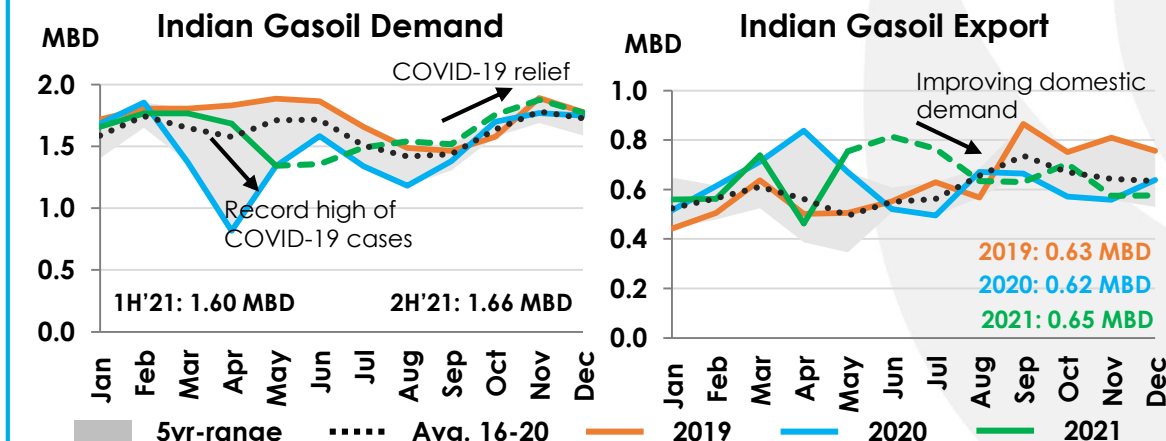
Rising Gasoil Demand on Improving Economic Activity after Easing Lockdown

A Higher Gasoil Demand on Rising Economic Activities



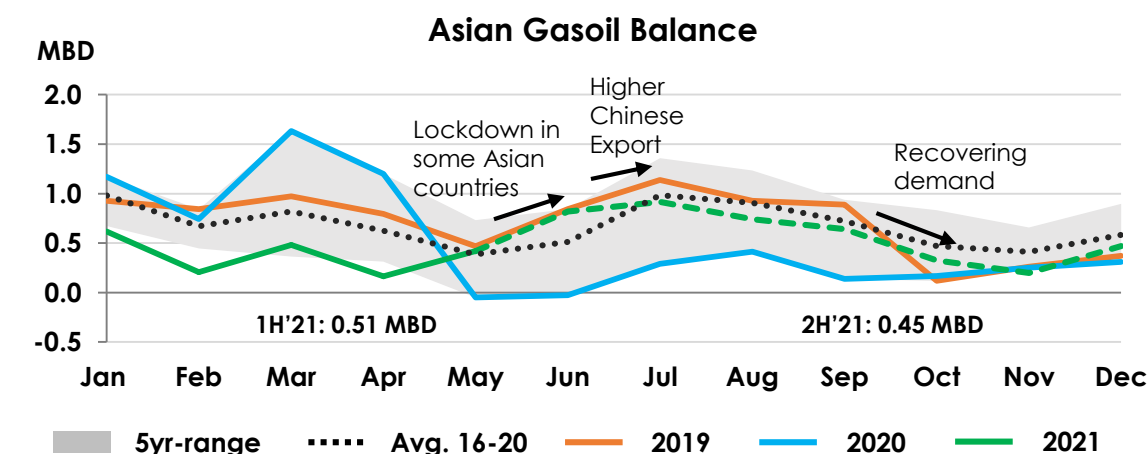
Source: Energy Aspects (Jun'21)

B India Gasoil Demand to Recover in 2H'21 on Better COVID-19



Source: FGE (May'21)

C Less Surplus Asian Supply in 2H'21 on Demand Recovery



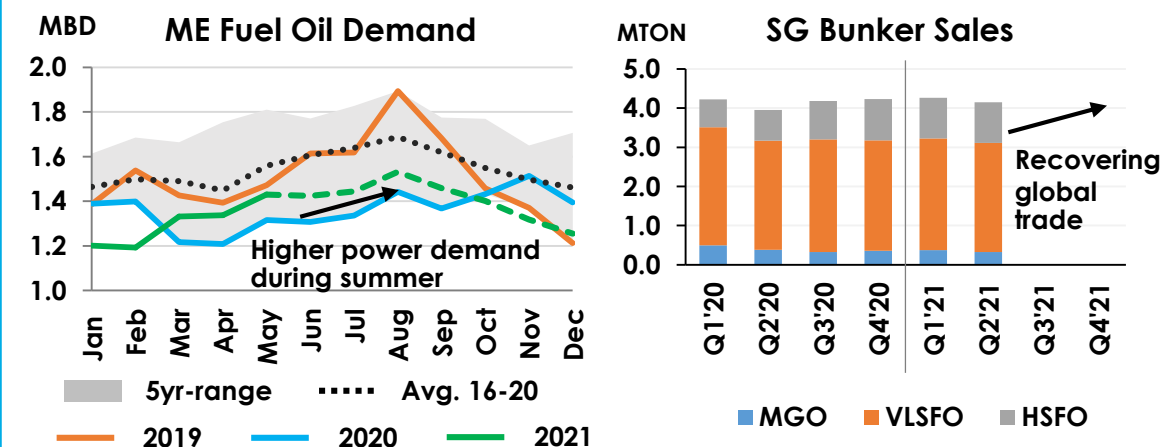
Source: FGE (May'21)

Key Highlight

- Improving economic activities on easing lockdown and vaccine progress
- COVID-19 relief in India on lower infection cases
- Less surplus supply in Q4'21 on demand recovery

Increasing Fuel Oil Demand for Power Sector and Bunker Fuel amid Rising Supply

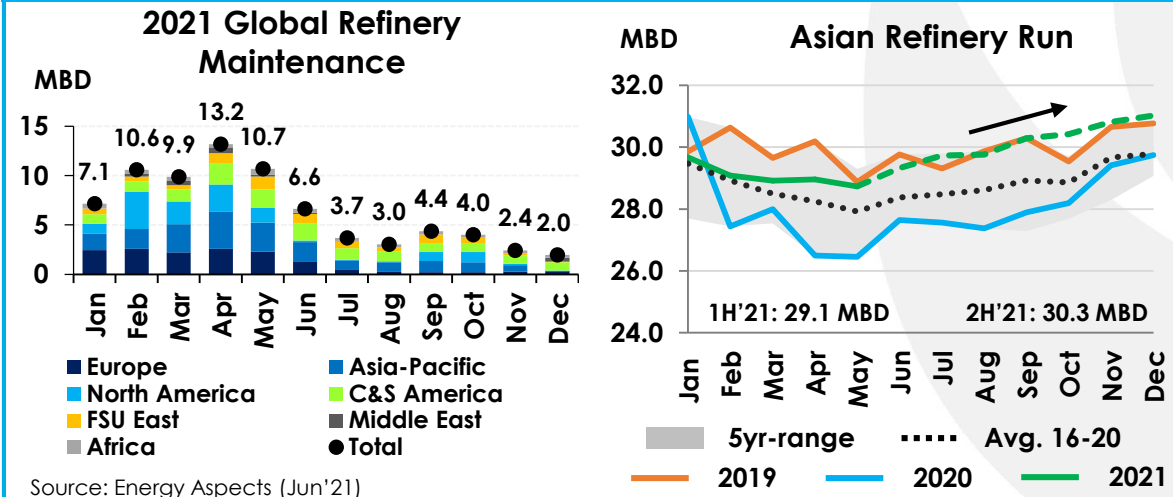
A Firm ME Demand on Peak Summer in Q3 and Rising Trade



Source: Energy Aspects (May'21)

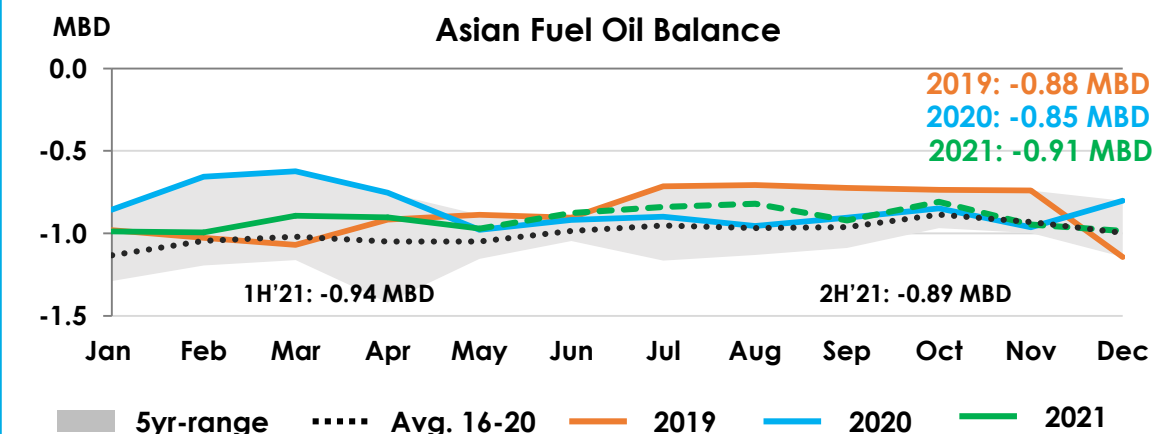
Source: Marinetime and port of Singapore (Jun'21)

B Higher Supply on Refinery Resumption after Maintenance



Source: Energy Aspects (Jun'21)

C Asian Fuel Oil Remains Steady Short despite Higher Run Rate



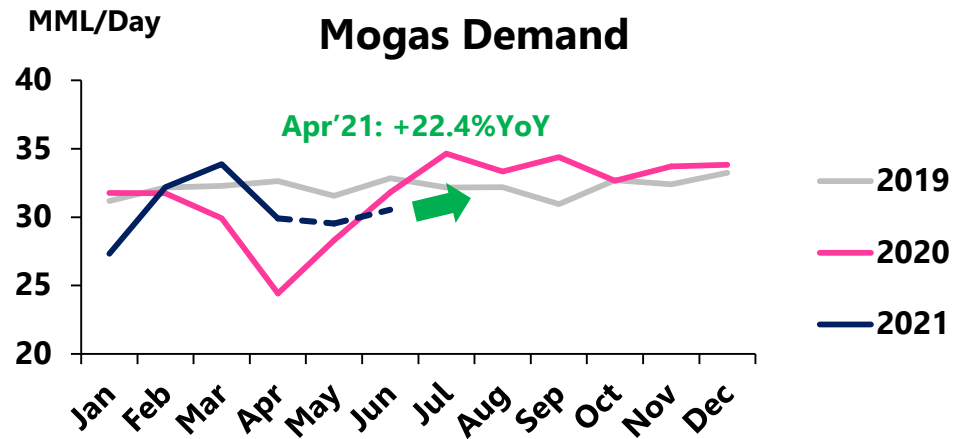
Source: FGE (May'21)

Key Highlight

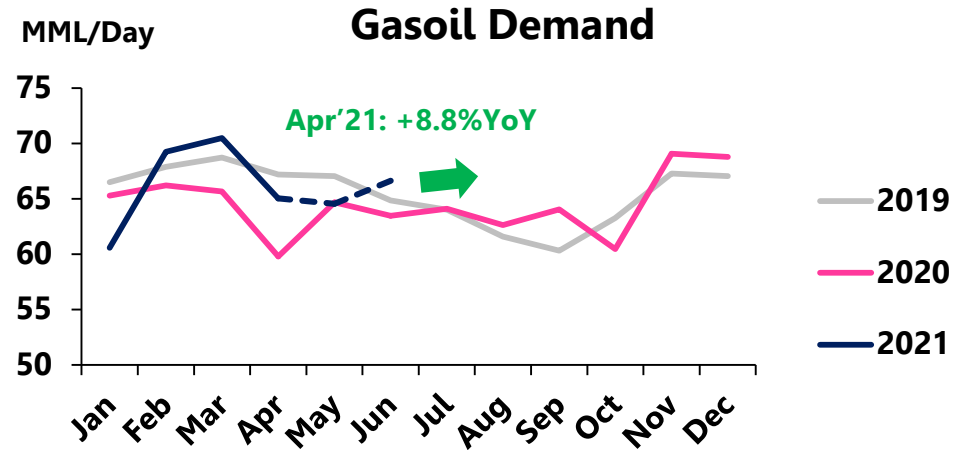
- Higher power generation demand during summer in Middle East
- Improved bunker demand on recovering trading activities with VLSFO as major portion
- Steady short Asian supply in 2H'21 despite higher refinery run rate and less refinery maintenance due to recovering demand

Recovering of Domestic Demand After the Third Wave of COVID-19

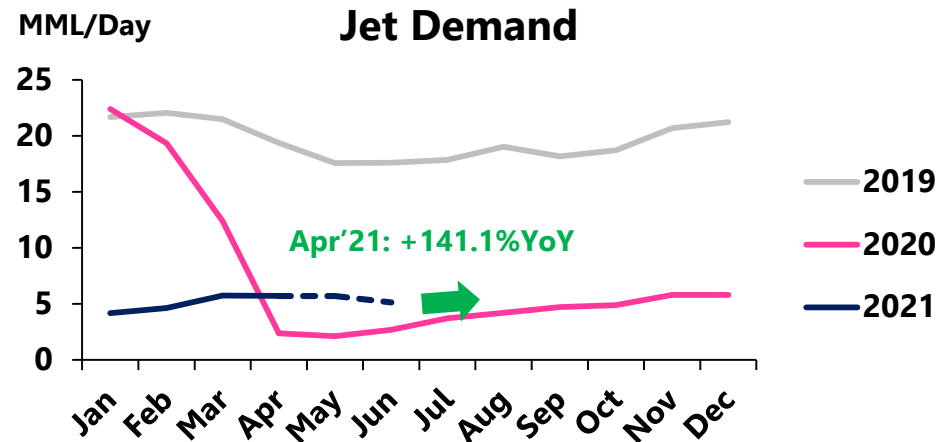
A Rising Mogas Demand from Higher Transports Activities



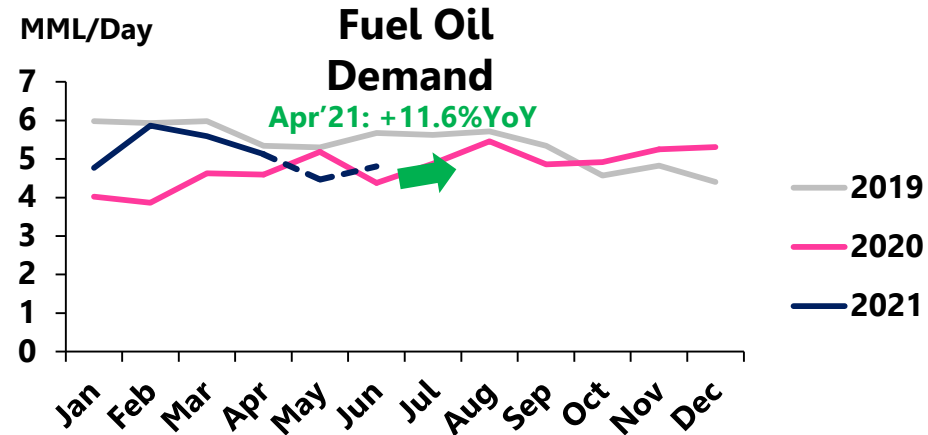
B Improving Gasoil Demand from Better Production Sectors



C Recovering Jet Demand on Higher Tourist Number



D Increasing Fuel Oil Demand from Higher Global Trade



Supportive Factors in H2/21



Vaccination Target
at 100 million doses in 2021



Stimulus Consumption
Packages

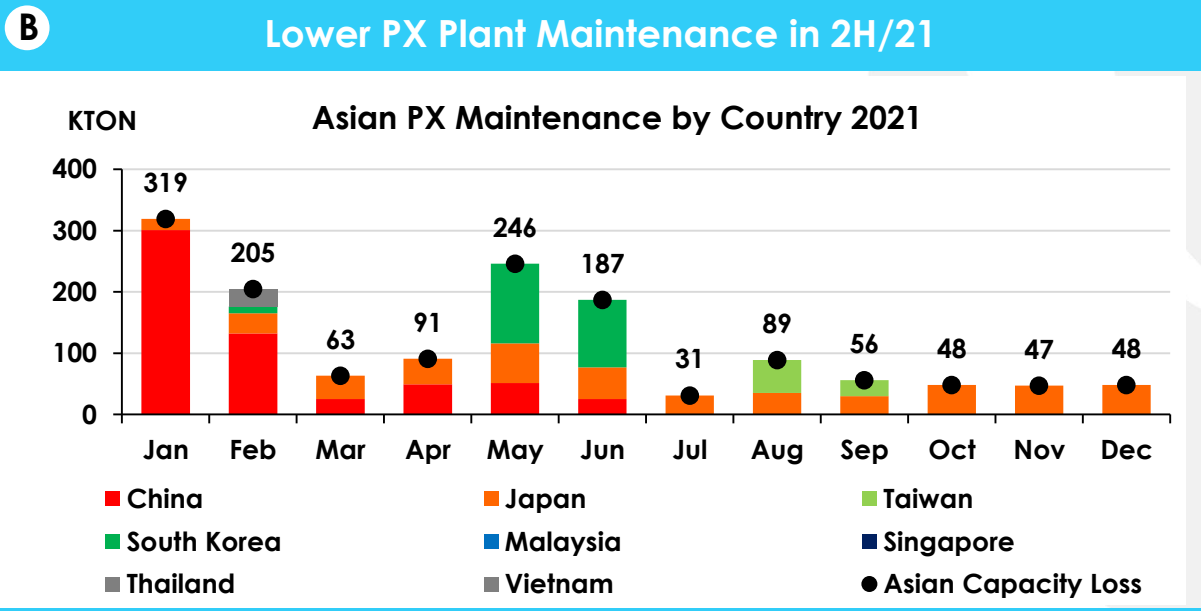
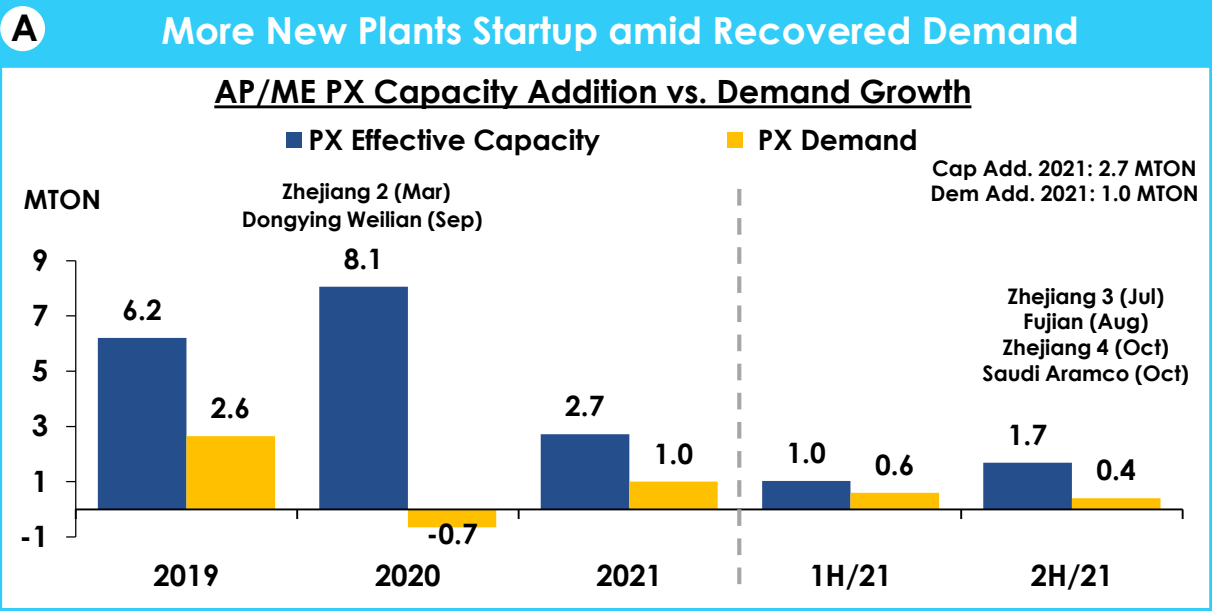


Phuket Sandbox
On 1 July 21



Global Trade
Improvement

More PX Supply Pressure the Market amid Lower Start-up of Downstream Plant



C PTA Plant Start-up Help Consuming PX Supply in 2021

Year	Month	Company	Country	Capacity (KTA)
2021	Jan	Zhejiang Yisheng Petrochemical	China	100
2021	Feb	Fujian Baihong (Billion) #1	China	2,500
2021	Apr	Jiangsu Honggang Petrochemical	China	2,400
2021	Jul	Yisheng New Material	China	3,000

Key Highlight

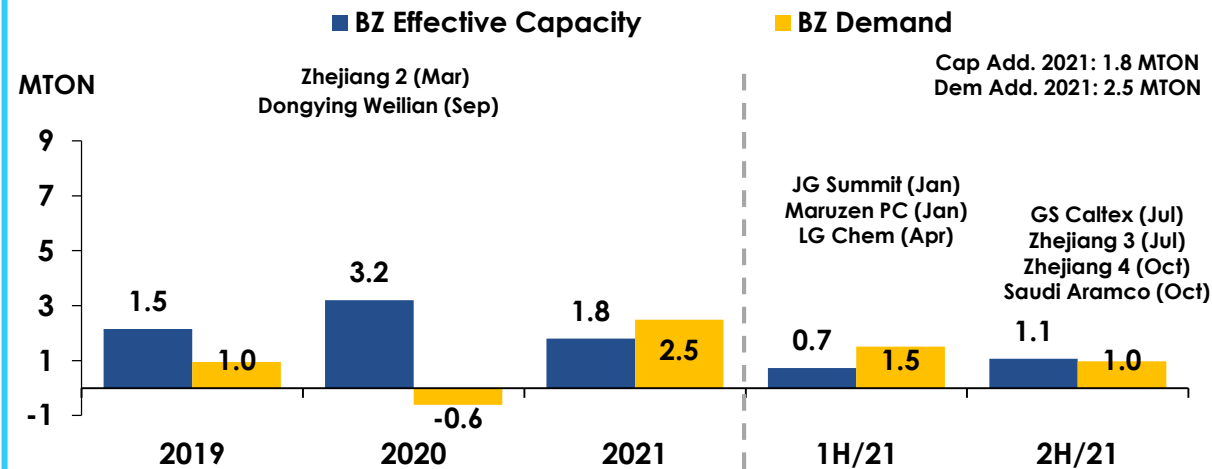
- Softened PX spread on new PX plants in 2H/21 amid one large PTA plant start up
- Demand is still supported by winter season and Christmas festival

Source: WM Chemicals (Apr-21), IHS Spring 2021 and TOP's Estimate

More BZ Supply amid Recovery Demand from SM Plants Start-up

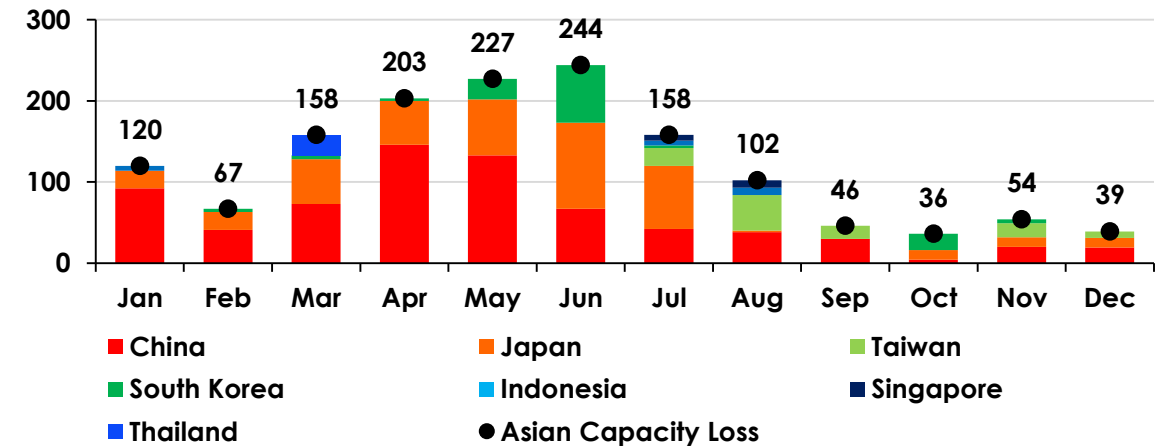
A More New Plants Startup amid Recovered Demand

AP/ME PX Capacity Addition vs. Demand Growth



B Peak BZ Plant Maintenance in Q2 and Decline in 2H/21

Asian BZ Maintenance by Country 2021



C SM Plant Start-up Help Consuming BZ Supply in 2021

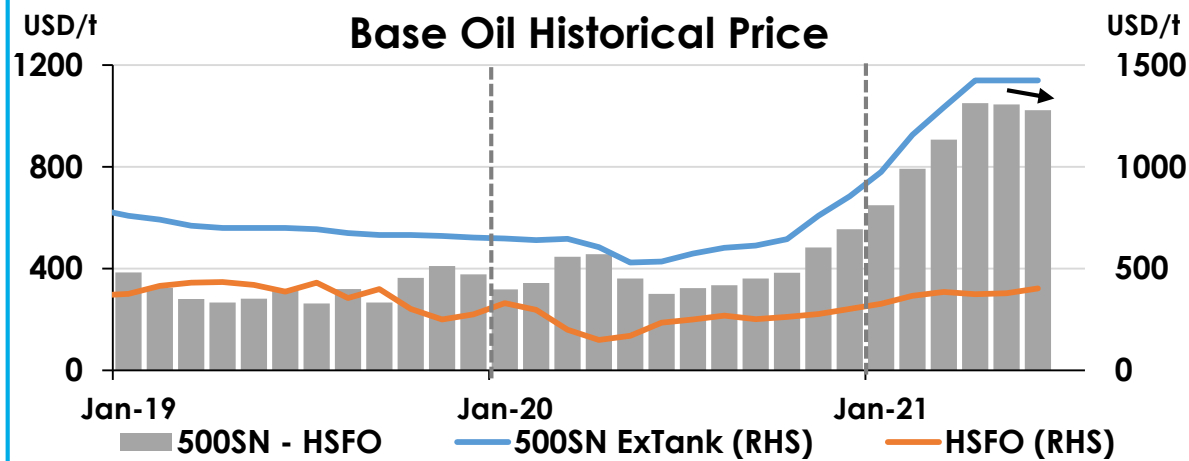
Year	Month	Company	Country	Capacity (KTA)
2021	Jan	Anhui Jiaxi	China	350
2021	Apr	Sinochem Quanzhou	China	450
2021	Apr	CNOOC and Shell	China	630
2021	May	Sinochem Hongrun	China	120
2021	Aug	Tianjin Bohai	China	450
2021	Aug	Ningbo Huatai	China	300
2021	Aug	Fujian Gulei	China	600

Key Highlight

- Softened BZ spread on new BZ plants in 2H/21 amid some SM plants start up
- Downstream demand is supported by festive Christmas demand and vaccine progress
- Low BZ inventory in China

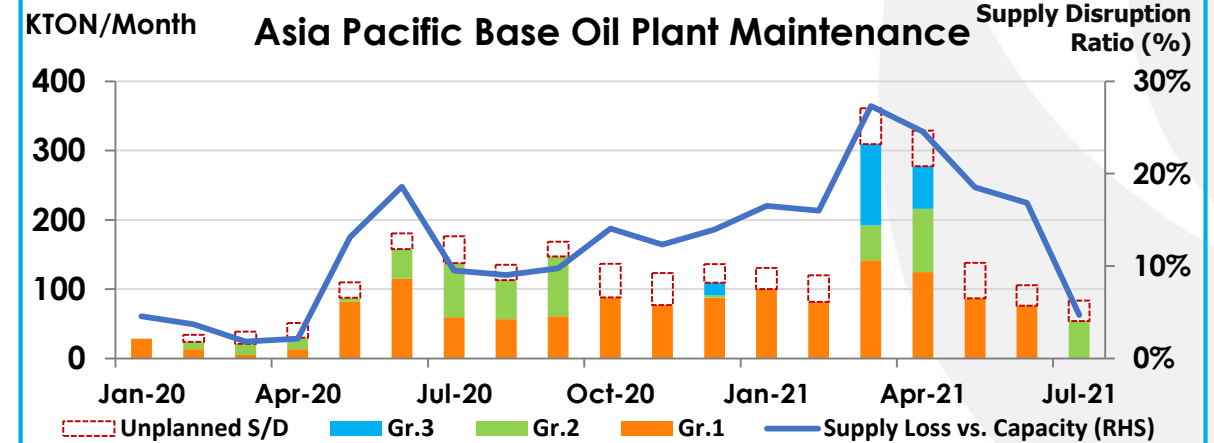
Softer Base Oil Market from The Easing of Tight Supply Situation

A Gradually Softer Base Oil Spread on Higher Supply Market



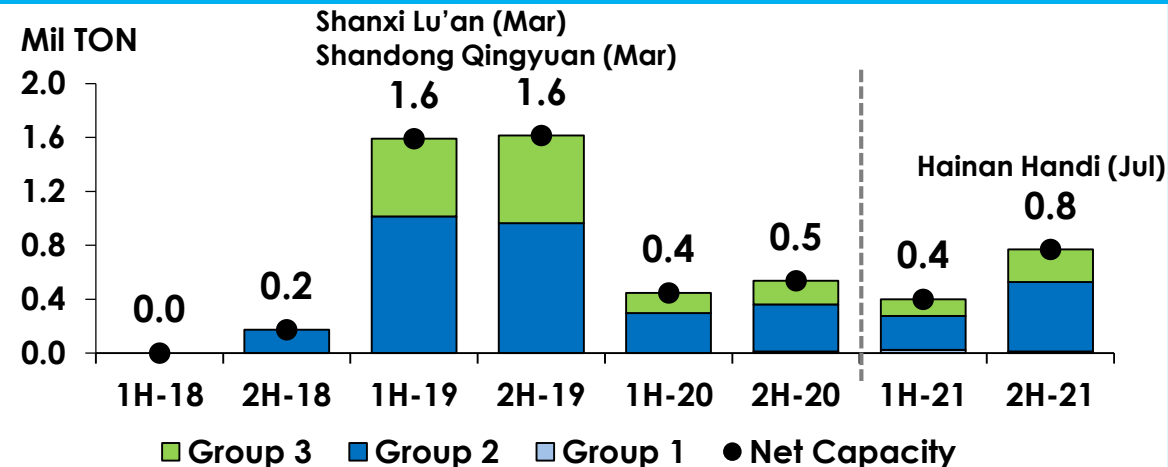
Source : Platts(Jun'21), ICIS (Jun'21) and Argus (Jun'21)

B Lower Plant Maintenance in Asia



Source : ICIS (Jun'21), Argus (Jun'21)

C AP Base Oil Effective Capacity Addition

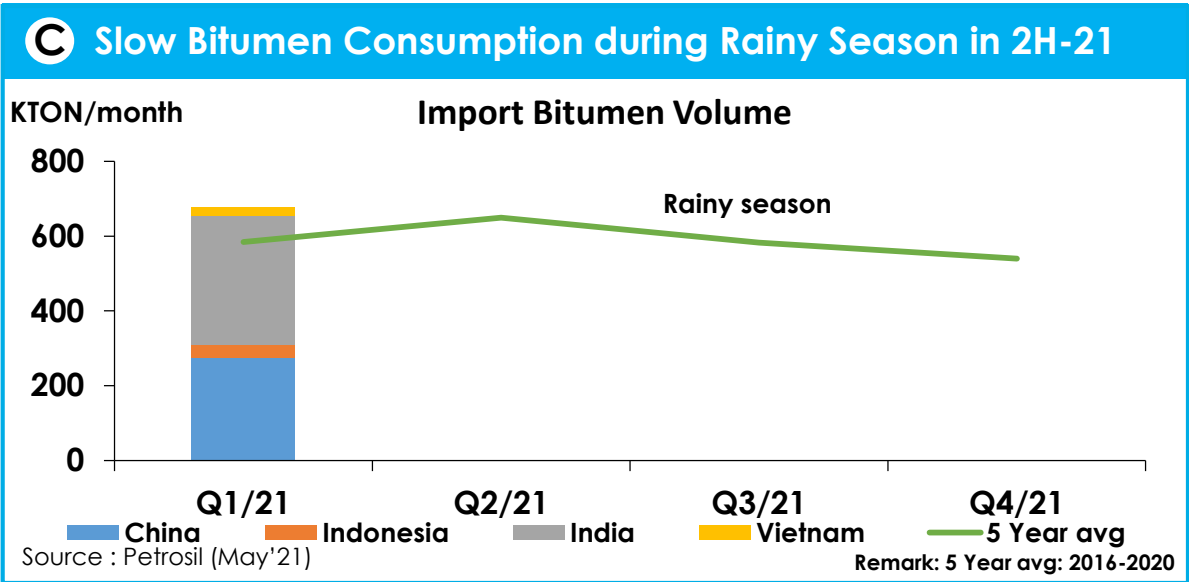
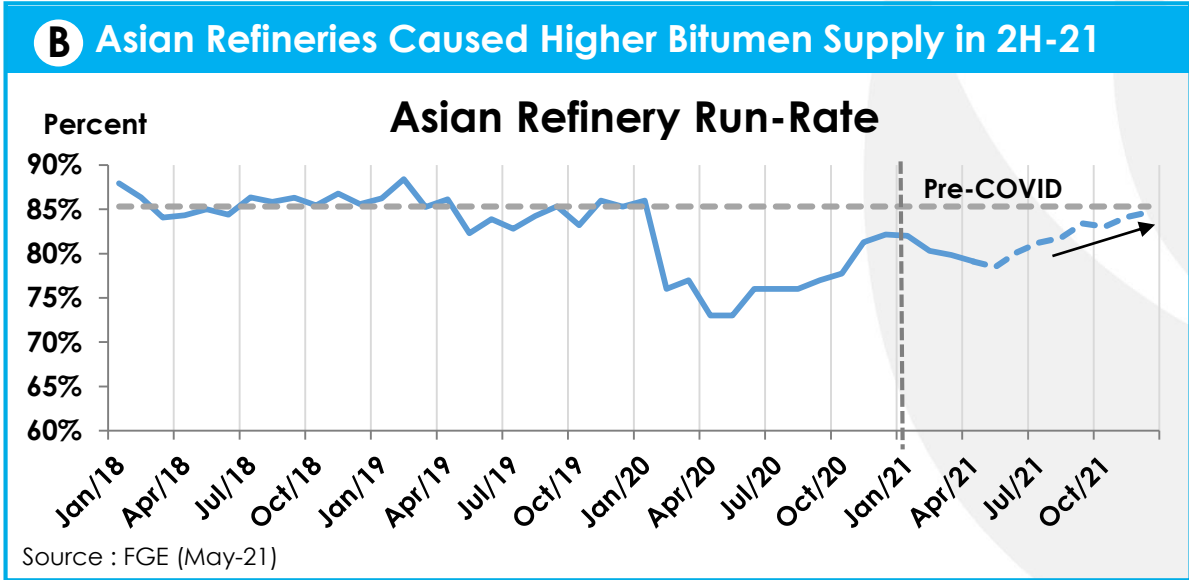
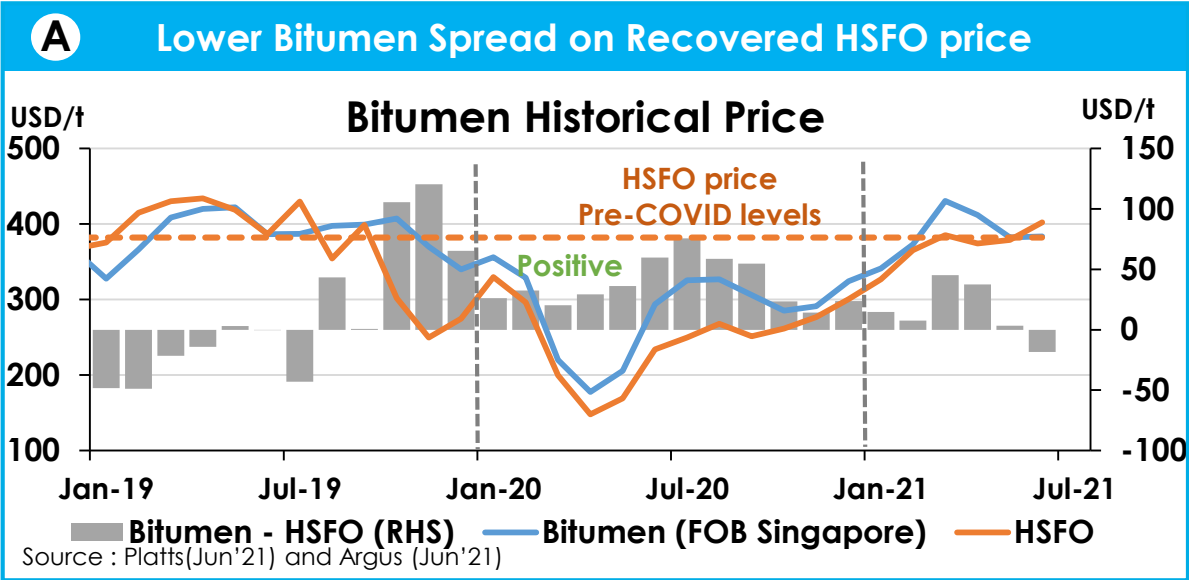


Source : Argus (Jun'21)

Key Highlight

- The easing of tight Base Oil market from lower planned and unplanned plant maintenance in Asia
- Higher new base oil plant start-up in 2H-21, esp. Hainan Handi (Gr.2+/3, 700KTA) in China
- Recovered demand but capped by global economic uncertainties

Lower Spread on Recovered HSFO Price & Potential of Higher Refineries Run-Rate



Key Highlight

- Softer spread on upstream price recovering
- Higher Bitumen supply due to higher refinery run-rates
- Improved COVID-19 cases support roadwork activities

2H-21 Market Outlook Conclusion

(vs. 1H-21)



Crude Oil

Expectation of Balance Crude Market on Higher Demand after COVID-19 Recovery amid Potential Higher Supply from Producers



Refinery

Improving Petroleum Product Demand on Increasing Economic Activities after the Progress in Vaccination



Aromatics

Improved PX and BZ Markets from Start-up of Downstream Plants and Recovering Demand on Economic Activity



Lube Base

Softer Base Oil Market from The Easing of Tight Supply Situation

APPENDIX

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

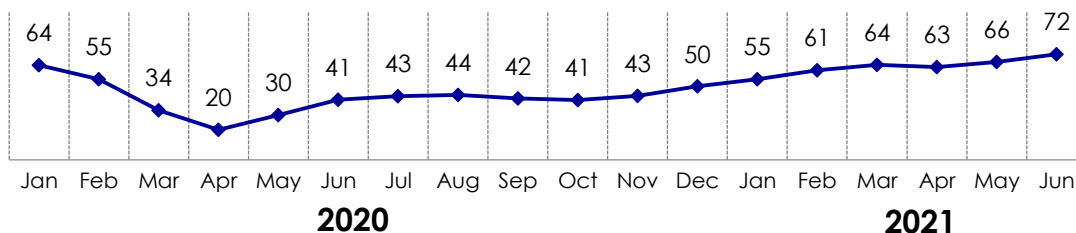
Refinery: Softening Mkt GRM Pressured by Higher Crude Premium

Dubai Crude Price & Key Petroleum Product Spreads

	2020				2021			2020
\$/bbl	Q1	Q2	Q3	Q4	Q1	Q2	Q3TD*	FY
DUBAI (DB)	50.9	30.6	42.9	44.6	60.0 ↑	66.9	73.9	42.2
ULG95 - DB	6.7	2.6	4.4	4.1	7.1 ↑	9.9	11.6	4.5
JET - DB	8.6	(0.1)	(0.7)	2.4	3.3 ↑	4.5	3.9	2.5
GO - DB	11.1	5.7	4.2	3.7	4.7 ↑	5.3	5.0	6.2
VLSFO - DB	13.8	5.3	3.2	5.5	7.6 ↑	5.0	4.6	7.0
HSFO - DB	(7.5)	(1.6)	(2.5)	(0.6)	(3.5) ↓	(5.8)	(6.2)	(3.0)

*Q3TD as of 2 Jul'21

Dubai Price
(US\$/bbl)



Gross Refinery Margins - GRM

	2020				2021
\$/bbl	Q1	Q2	Q3	Q4	Q1
Market GRM	0.1	1.4	(1.1)	1.2	0.7
Stock G/(L)	(12.3)	(1.8)	4.0	2.3	6.2
Accounting GRM	(12.2)	(0.4)	2.9	3.4	6.9

Refinery Utilization

Q1/20	Q4/20	Q1/21
111%	101%	100%
% MB Intake/ MB-DB (\$/bbl)		
14%/ 2.4	22%/ (0.4)	17%/ 0.7
% Middle East crude intake		
45%	61%	52%

Q1/21 Market GRM

- **Higher crude premium** due to tight crude oil market from controlled production by OPEC+
- **Higher fuel & loss** following rising crude price
- + **Improving Gasoline spread** supported by supply disruption in the U.S. following a cold blast, and low inventories worldwide
- + **Improving Middle Distillates margins** especially Jet due to improving aviation fuel demand and strong heating demand in N. Asia. Diesel spread supported by economic recovery and improving transportation demand

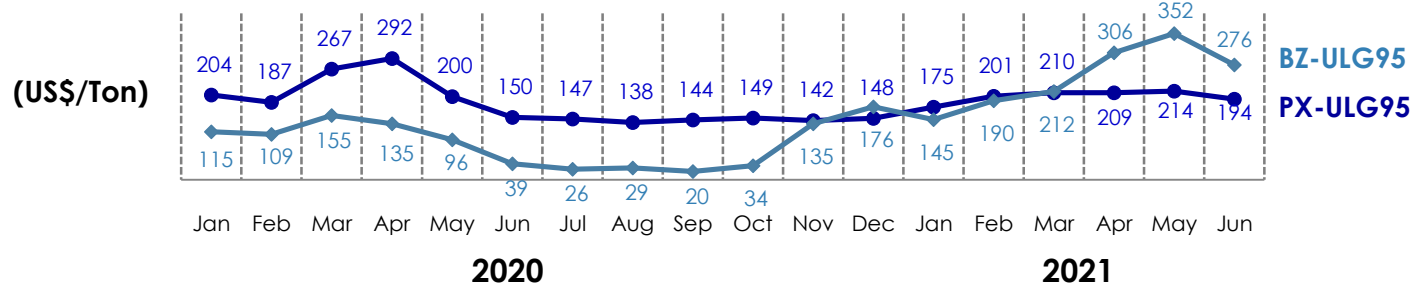
Q1/21 Performance

- + **Maintain refinery run rate at 100%** to capture improving domestic oil demand

Aromatic: Higher Contribution Supported by PX and BZ Margins

Aromatic Spreads and Margins								
	2020				2021			2020
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	Q3TD*	FY
PX-ULG95	218	214	143	146	195 ↑	206	194	180
BZ-ULG95	126	90	25	115	182 ↑	313	329	89

*Q3TD as of 2 Jul'21



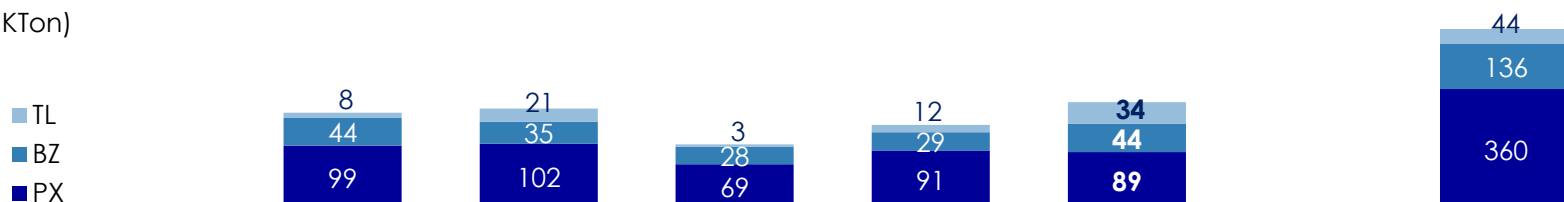
Aromatics Production		
Q1/20	Q4/20	Q1/21
81%	70%	80%

Q1/21 Market

- + **Improving PX margin** supported by strong buying interest from new PTA plants start-up(4.9 mtpa)
- + **Improving BZ margin** supported by higher demand from new SM plant start-up (0.35 mtpa) and supply disruption in the U.S. following historic cold blast
- + **Stable LAB contribution** due to growing demand for hygiene products during COVID-19 pandemic and limited regional supply

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

(Unit : KTon)



	2020				2021
	Q1	Q2	Q3	Q4	Q1
P2F -\$/ton	85	77	68	76	106
P2F -\$/bbl	11.1	10.0	8.9	9.9	13.9
GIM -\$/bbl ⁽¹⁾	1.5	1.6	1.2	1.6	2.0

(1) Including LAB contribution

Q1/21 Performance

- + **Higher utilization rate at 80%**
- **Lower LAB utilization rate at 91%** due to LABIX maintenance for 18 days

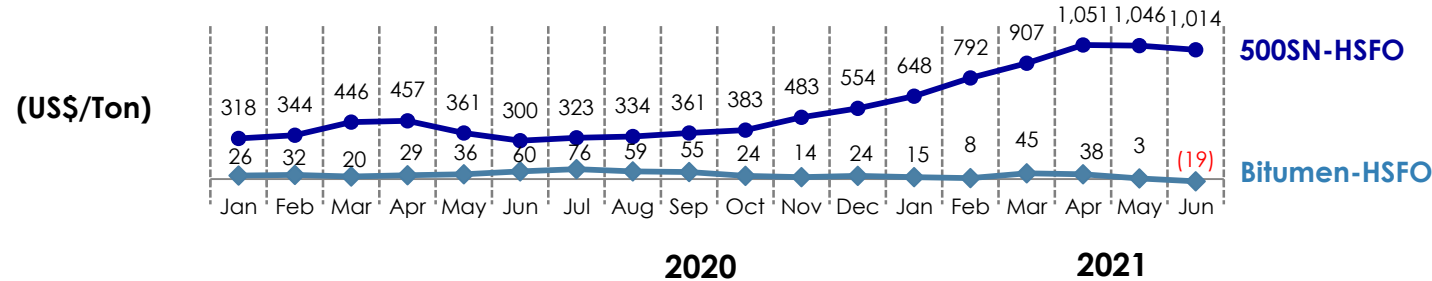
2020
FY
77
10.0
1.5

Base Oil: Robust Contribution Supported by Strong Lube Spread

Base Oil & Bitumen Spreads & Margins

	2020				2021			2020
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	Q3TD*	FY
500SN-HSFO	369	372	340	474	783 ↑	1,037	995	389
BITUMEN-HSFO	26	42	63	21	23 ↑	7	(20)	38

*Q3TD as of 2 Jul'21



Base oil Production

Q1/20	Q4/20	Q1/21
81%	93%	93%

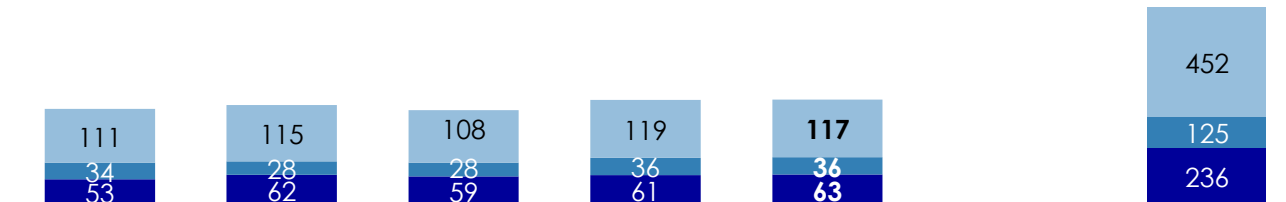
Q1/21 Market

- + **Record high Base Oil margin** due to limited supply from refinery run cuts and regional demand recovery and resilient lubricant demand from shipping sector
- + **Improving Bitumen margin** due to lower bitumen production from many refineries in the region especially in Singapore

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

(Unit : KTon)

- Bitumen
- Specialty
- Base Oil



	2020				2021
	Q1	Q2	Q3	Q4	Q1
P2F -\$/ton	86	24	100	105	170
P2F -\$/bbl	13.1	3.6	15.1	15.9	25.7
GIM -\$/bbl	0.6	0.0	0.8	0.8	1.5

Q1/21 Performance

- + **Maintain high & reliable utilization rate at 93%**

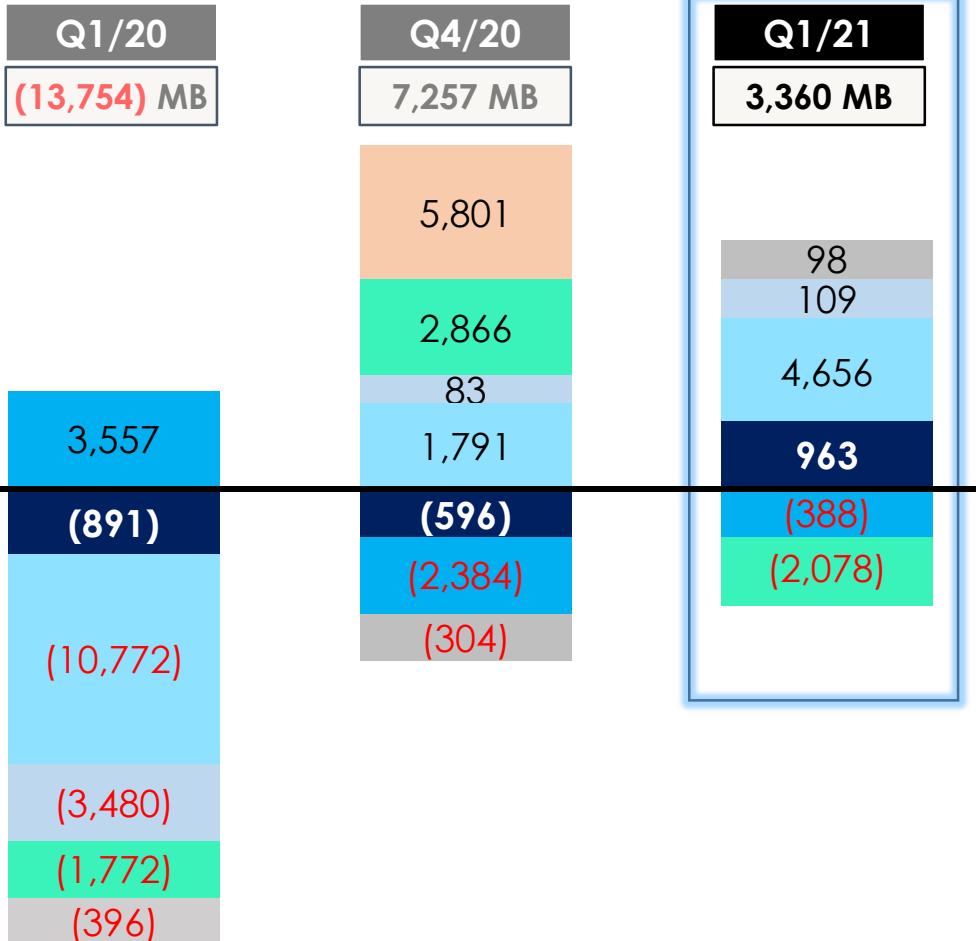
2020
FY
79
11.9
0.5

Q1/21- Financial Performance

-59-

TOP Group Net Profit

Unit : million THB (MB)



Remark

- Stock gain/(loss) : Q1/20 (10,772) MB, Q4/20 1,791 MB, Q1/21 4,656 MB
- Reversal/ (write-down) on crude and petroleum product inventory : Q1/20 (3,480) MB, Q4/20 83 MB, Q1/21 109 MB
- F/X gain/(loss) on gain on foreign currency assets & liabilities : Q1/20 (1,772) MB, Q4/20 2,866 MB, Q1/21 (2,078) MB
- (Tax expense)/Reversal of Tax expense : Q1/20 3,557 MB, Q4/20 (2,384) MB, Q1/21 (388) MB
- Net realized gain/(loss) on financial instruments : Q1/20 (19) MB, Q4/20 (254) MB, Q1/21 (119) MB
- Non-recurring item: Impact of TFRS-9 : Q1/20 (377) MB, Q4/20 (50) MB, Q1/21 217 MB

Gross Refining Margin - GRM

\$/bbl	Q1/20	Q4/20	Q1/21
Market GRM	0.1	1.2	0.7
Stock Gain/(Loss)	(12.3)	2.3	6.2
Accounting GRM	(12.2)	3.4	6.9

Gross Integrated Margin - GIM

Aromatics & LAB	1.5	1.6	2.0
Lube base	0.6	0.8	1.5
Market GIM	2.1	3.6	4.1
Accounting GIM	(10.1)	5.8	10.2

Utilization / Production Rate

Refinery	111%	101%	100%
Aromatics	81%	70%	80%
LAB	113%	115%	91%
Base Oil	81%	93%	93%

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

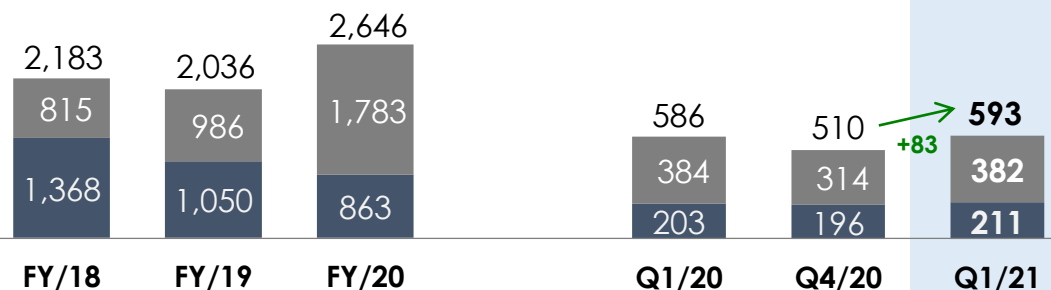
EBITDA & Net Profit

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

Q1/21 Performance Highlight

- + **Higher power business contribution**
mainly from higher contribution from GPSC
- + **Completed process of Entire Business Transfer (EBT)**, transferring Thaioil Power business to be 100% under Thaioil

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

Performance Breakdown

	Petroleum	Petrochemical & Lube Base ⁽¹⁾	Power ⁽²⁾	Others & New Business ⁽³⁾	Consolidated Net Profit (excl. Stock G/(L))	Stock Gain/ (Loss)	Consolidated Net Profit (incl. Stock G/(L))
Q1/20	(4,184)	743	586	177	(2,982)	(10,772)	(13,754)
Q4/20	7,137	936	532	209	5,466	1,791	7,257
Q1/21	(3,758)	1,431	594	349	(1,296)	4,656	3,360

Q1/21 Key Points

Petroleum

- Stable utilization rate to 100%
- Lower market GRM (from \$1.2 /bbl in Q4'20 to \$0.7/bbl in Q1'21)
- Huge stock gain of \$6.2/bbl as rising crude price

Petrochemical & Lube

- **Aromatics & LAB** : higher contribution supported by improving PX and BZ margins due to the new downstream plants start-up
- **Lube** : robust contribution supported by strong lube spread from limited supply and improving bitumen spread

Power

- Completed power business restructuring process in Feb'21, Thaioil Power (TP) business completely transferred to Thaioil (TOP) and shareholding in GPSC increased to 20.8%
- Higher contribution from GPSC due to lower operating cost and higher IU demand

Others & New Business

- **Solvent** : strong contribution due to higher sales volume and gross margin from demand recovery
- **Ethanol** : higher contribution due to higher ethanol price & gross margin
- **Marine** : improving contribution from lower operating expense

Remark

(1) Includes 75% of LAB net profit Q1/20 (66) MB, Q4/20 138 MB, Q1/21 61 MB

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

(3) Consisting of Solvent, Ethanol, Marine and other business

Q1/21 TOP Group Consolidated P&L

(MB)	<u>Q1/21</u>	<u>Q4/20</u>	<u>QoQ+ / (-)</u>	<u>Q1/20</u> Represent	<u>YoY+ / (-)</u>
Sales Revenue	73,449	59,592	13,857 ^(A)	76,569	(3,120) ^(D)
Net Realized G/(L) on Financial Instrument	(119)	(254)	135	(19)	(100)
EBITDA	↑ 8,272	3,492	4,780 ^(B)	(12,248)	20,520 ^(E)
EBITDA excl. Stk G/(L) & NRV	3,507	1,618	1,889	(2,004)	1,503
Net G/(L) on FV of Financial Instrument	217	(50)	267	(377)	594
FX G/(L) & CCS	(2,604)	2,538	(5,142)	(2,342)	(262)
Gain on sale investment in GPSC	-	5,801	(5,801)	-	-
Financial cost	(796)	(1,039)	243	(1,085)	289
Tax Expense	(388)	(2,384)	1,996	3,557	(3,945)
Net Profit	↓ 3,360	7,257	(3,897) ^(C)	(13,754)	17,114 ^(F)
EPS (THB/Share)	1.65	3.56	(1.91)	6.74	8.39
Stock G/(L) and NRV	4,765	1,874	2,891	(14,252)	19,017
Net Profit excl. Stk G/(L) & NRV	(1,405)	5,383	(6,788)	498	(1,903)
THB/US\$ - average selling	30.46	30.79	(0.33)	31.45	(0.99)
THB/US\$ - ending	31.51	30.21	1.30	32.83	(1.32)

Analysis

QoQ

- ^(A) Higher sales revenue due to improving average selling prices
- ^(B) Higher EBITDA from a huge stock gain \$6.2/bbl in Q1/21
- ^(C) Lower net profit qoq due to gain on sale investment in GPSC in Q4/20

YoY

- ^(D) Lower sales revenue due to lower volume and average selling prices due to impact of COVID-19
- ^(E) Higher EBITDA from a huge stock gain
- ^(F) Higher net profit mainly from stock gain and improving MKT GIM

Q1/21 Consolidated Cash Flow

(Unit: MB)

	Q1'21	Q1'20 Represent
Operating Cash Flow (CFO)	(3,364)	(4,011)
Net income	3,494	(13,609)
Depreciation & NRV	1,815	7,263
Other adj.	2,410	(923)
Change in working capital	(11,083)	3,258

	Q1'21	Q1'20 Represent
Investments (CFI)	(4,727)	(33,218)
Dividend income	7	14
ST investments	5,252	(18,599)
CAPEX (PP&E) & others	(9,986)	(14,633)

Free Cash Flow (CFO + CFI)	(8,091)	(37,228)
-----------------------------------	----------------	-----------------

Financing (CFF)	(13,815)	(603)
Loans proceeding	2,030	2,687
Loans repayment	(5,296)	(1,619)
Bond issue	(3,000)	-
Interest	(1,370)	(1,361)
Dividend & Lease	(6,180)	(311)

Beginning 2021

Cash
53,244

+

Increase / (Decrease)
(21,906)

+

Effect of FX changes
800

=

Ending Q1/21

Cash
32,138

Cash + S/T Investment
71,681

Cash + S/T Investment
46,231

ESG/Sustainability Highlights 2020

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

- Thaioil 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 "Thaioil Group Supplier Code of Conduct"
- Strengthen ESG practices and performance in supply chain through ISO 20400 : "Sustainable Procurement"



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 – Q1/2021

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

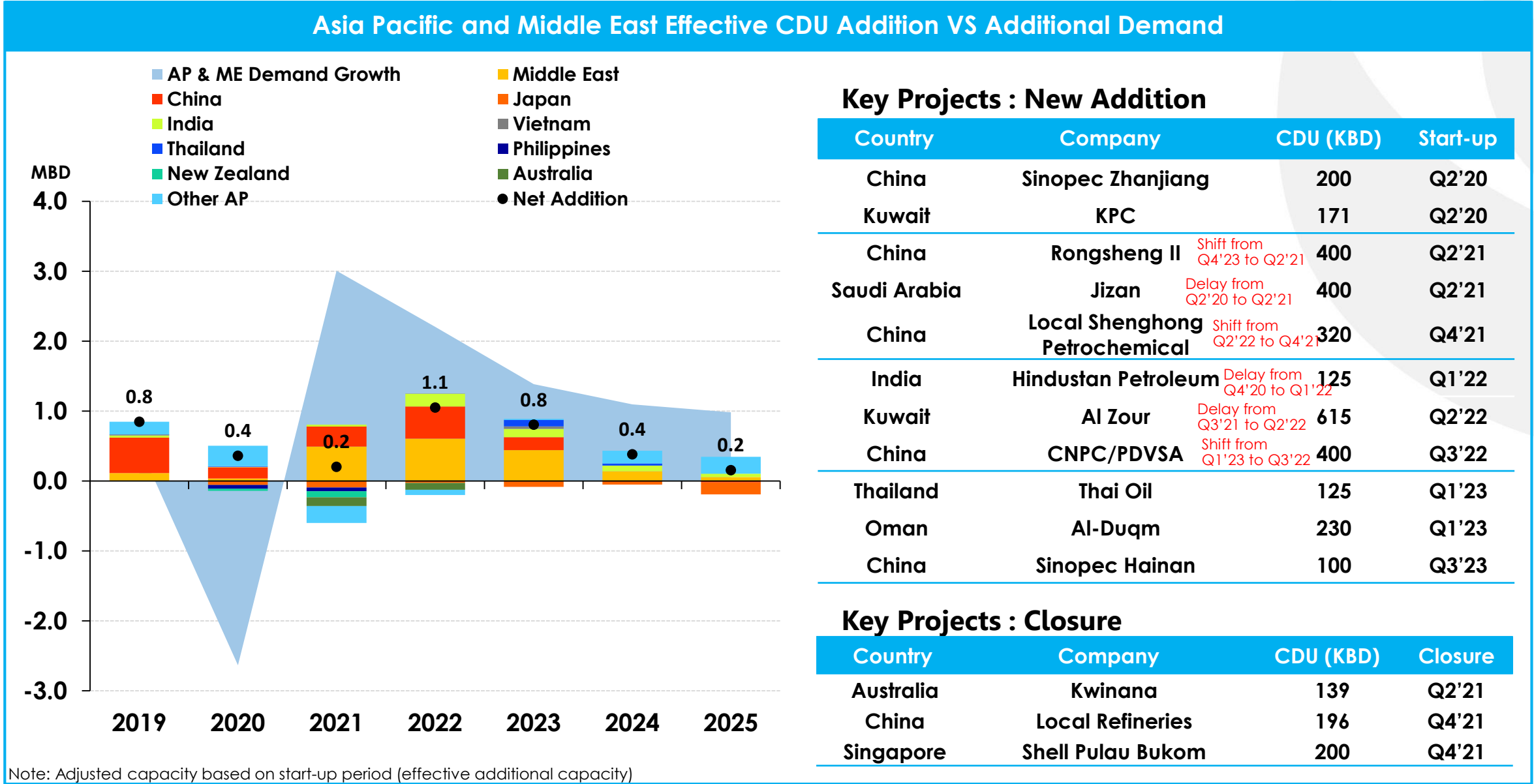
Maintains the "Excellence" level of CGR
Score for 12th consecutive year



Sustainable Procurement

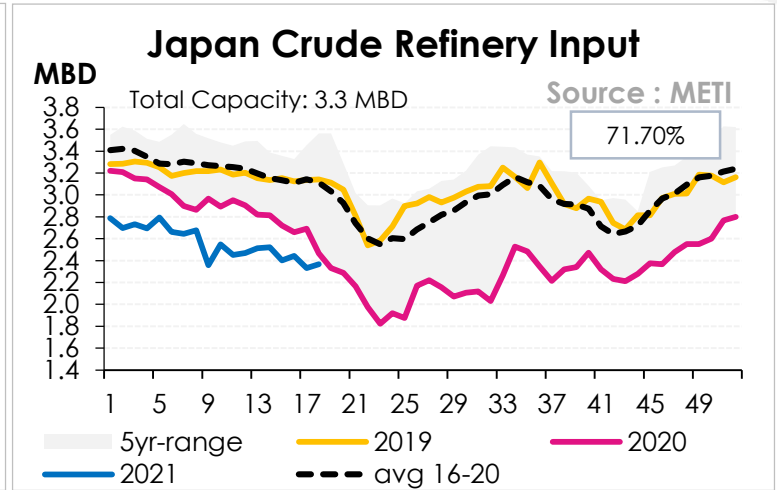
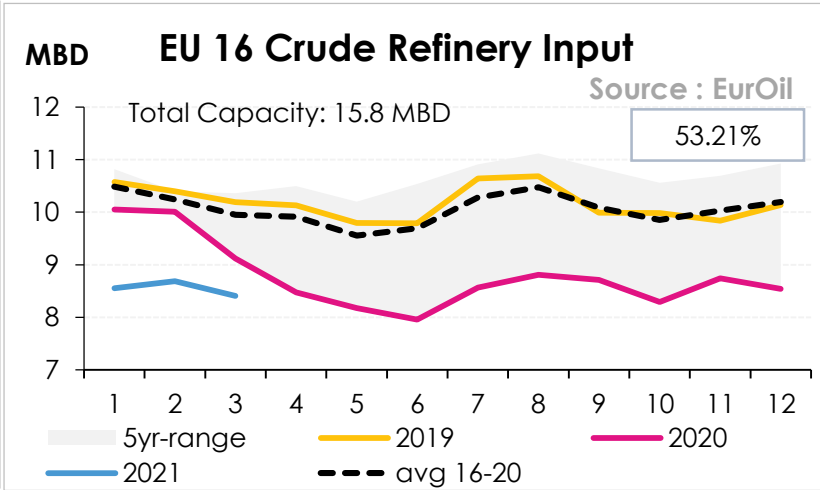
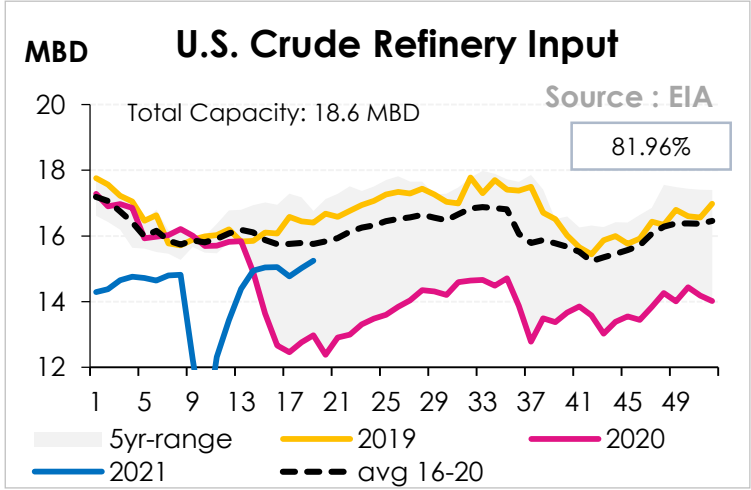
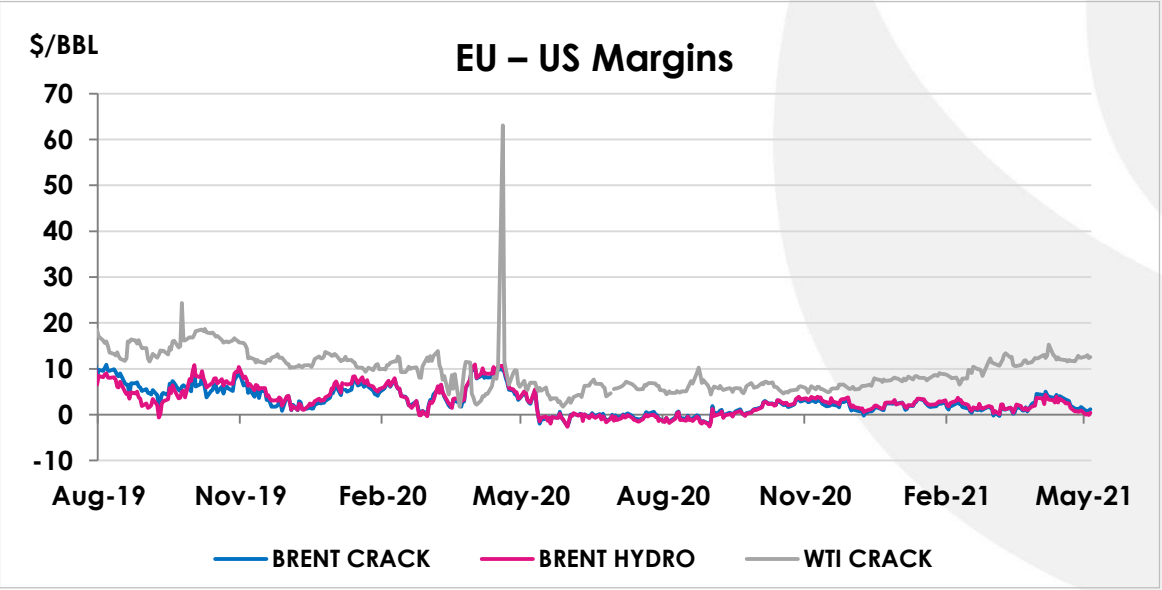
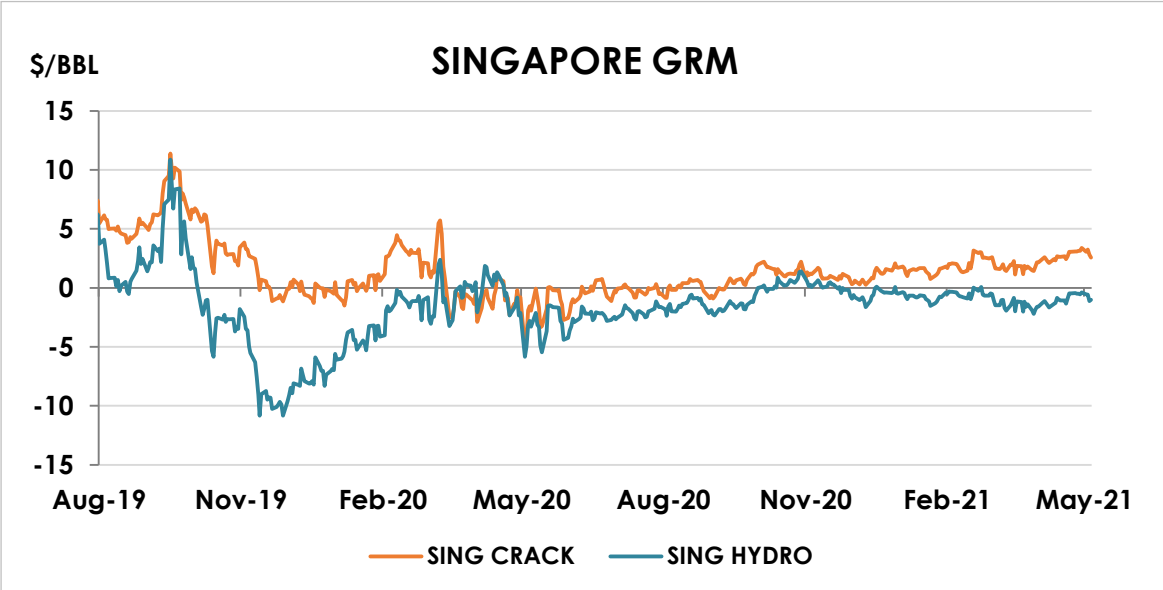
Accredited by the 3rd party for ISO 20400
for Sustainable Procurement process

Demand Growth to Outpace Refining Capacity Addition in Medium Term

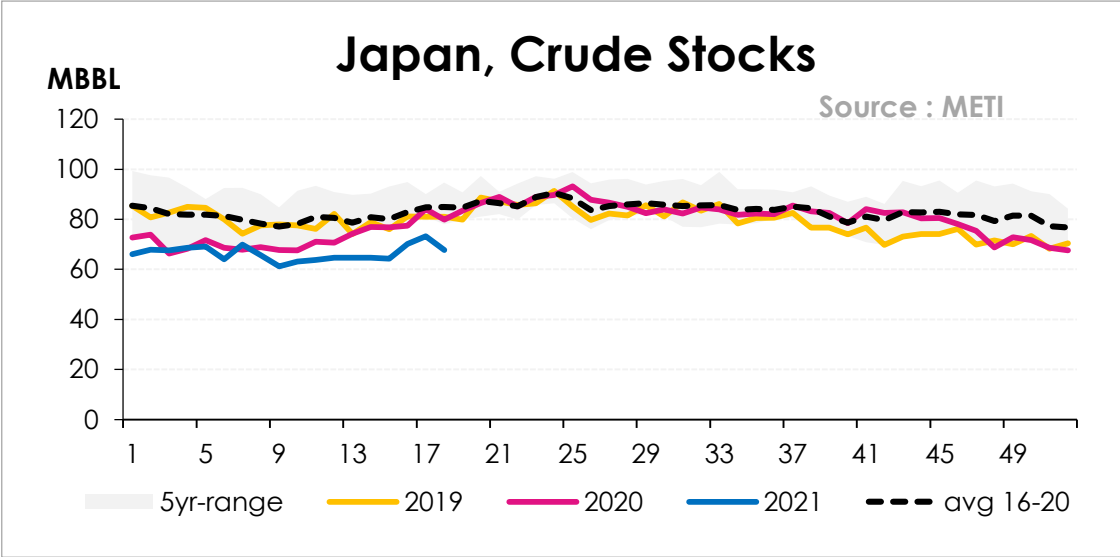
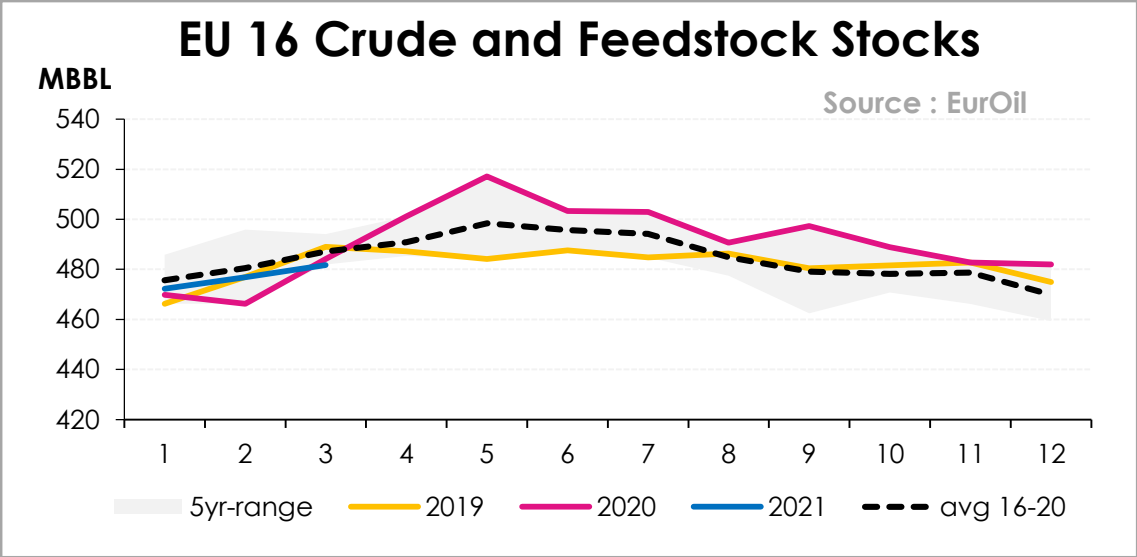
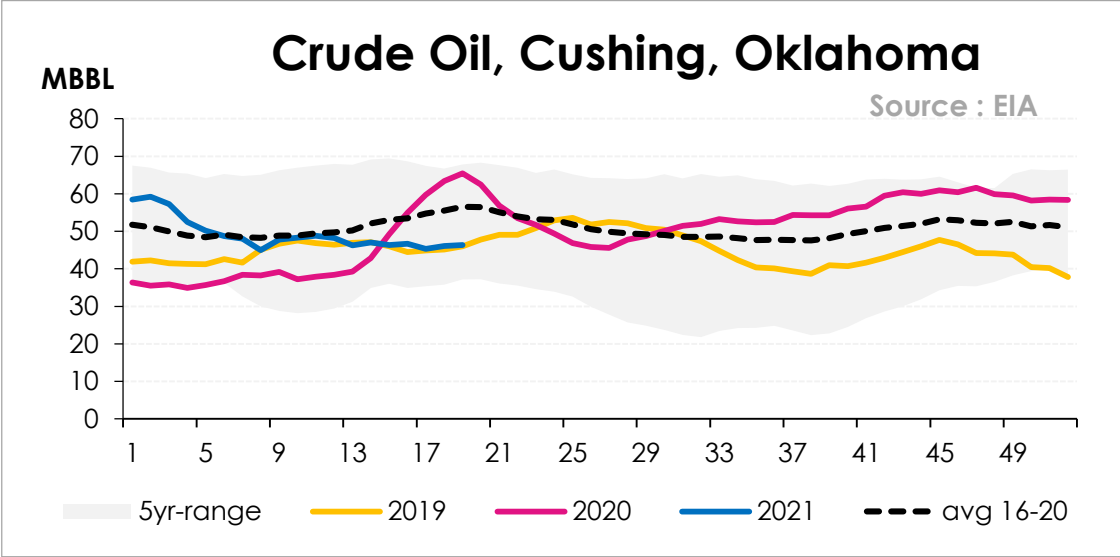
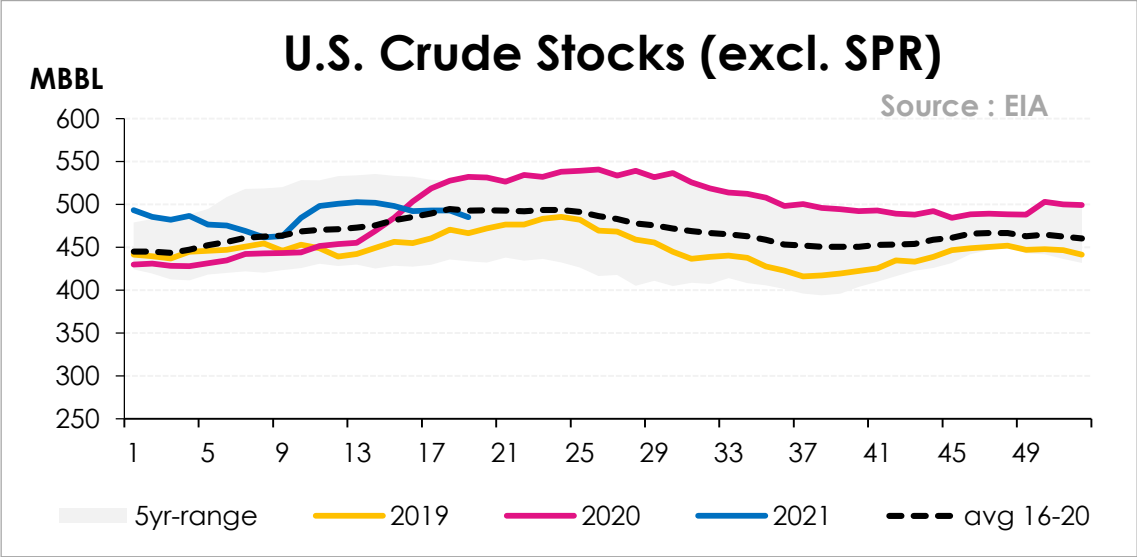


Sources: FACTs Semi Annual Reports, Spring 2021 (Apr'21), Fact Monthly Report (Apr'21), Energy Aspect (Apr'21), Platts (Apr'21) and Reuters (Apr'21)

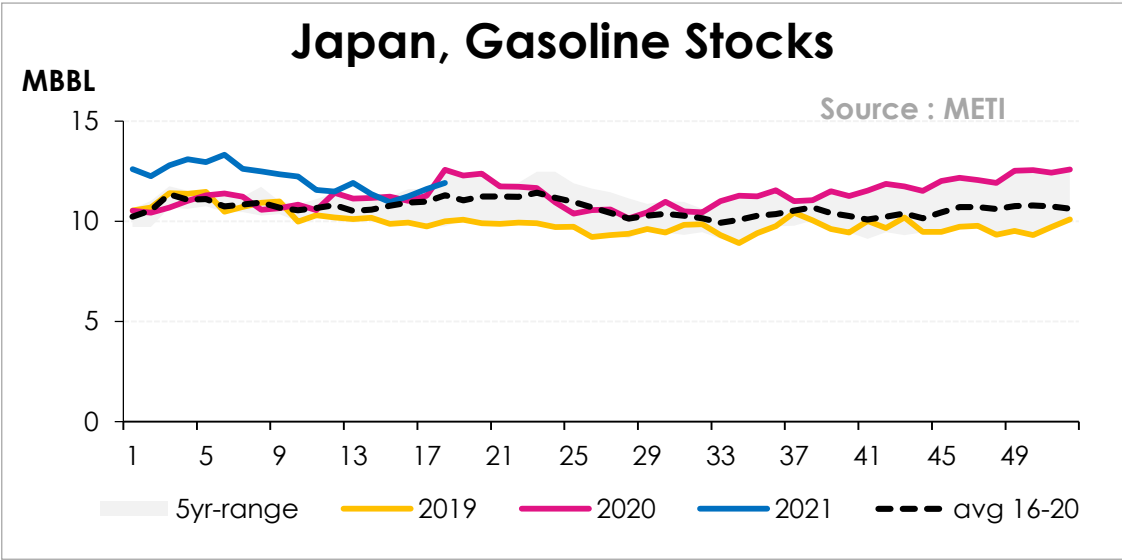
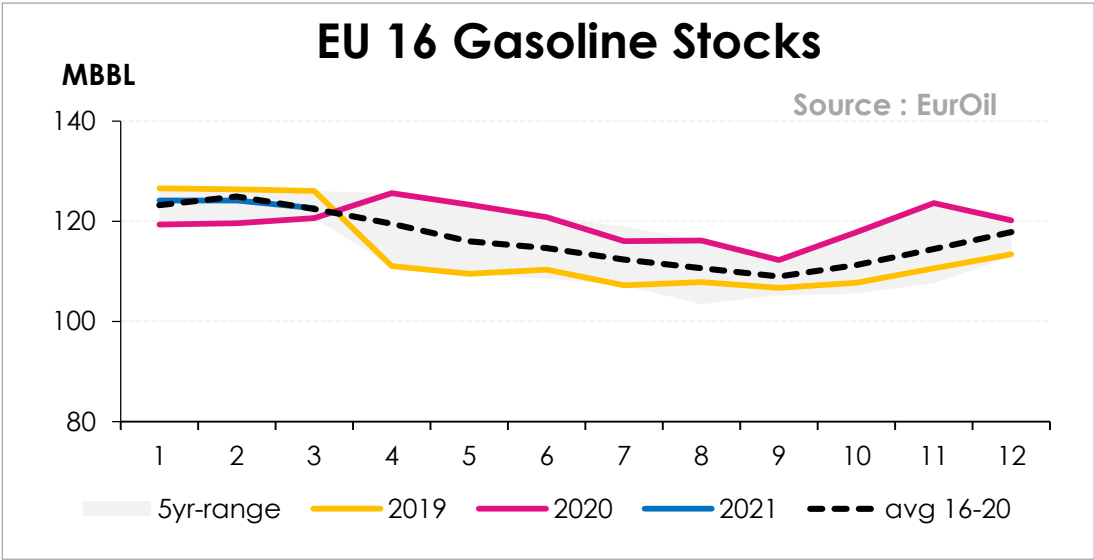
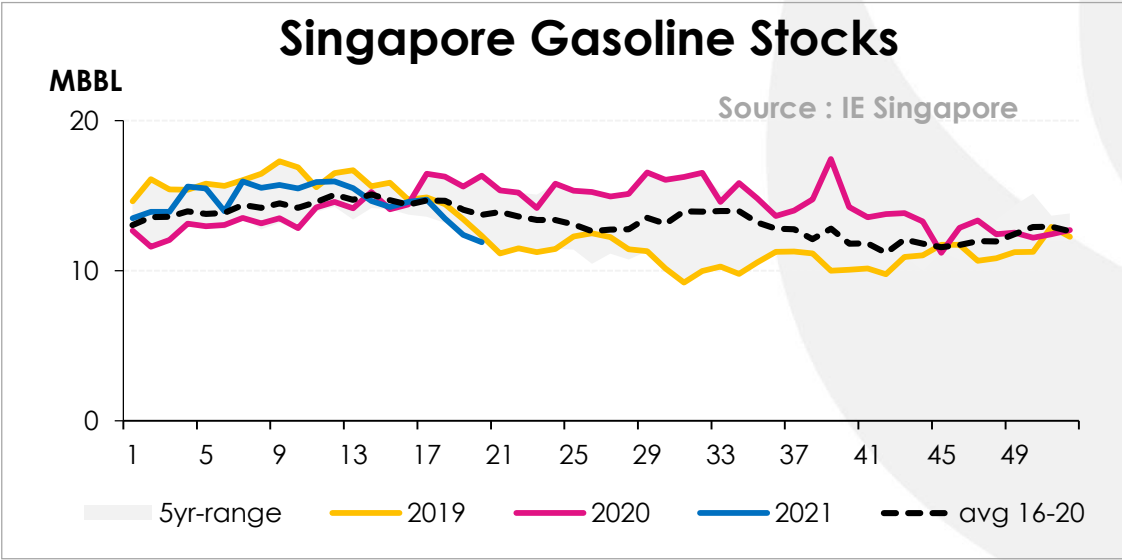
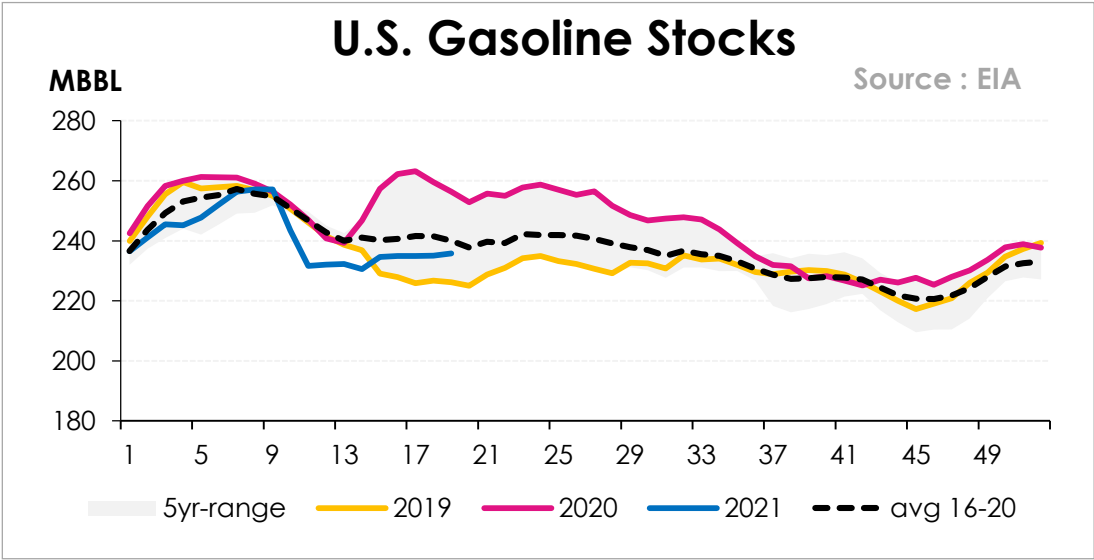
Asian Margin Vs. US-EU margin



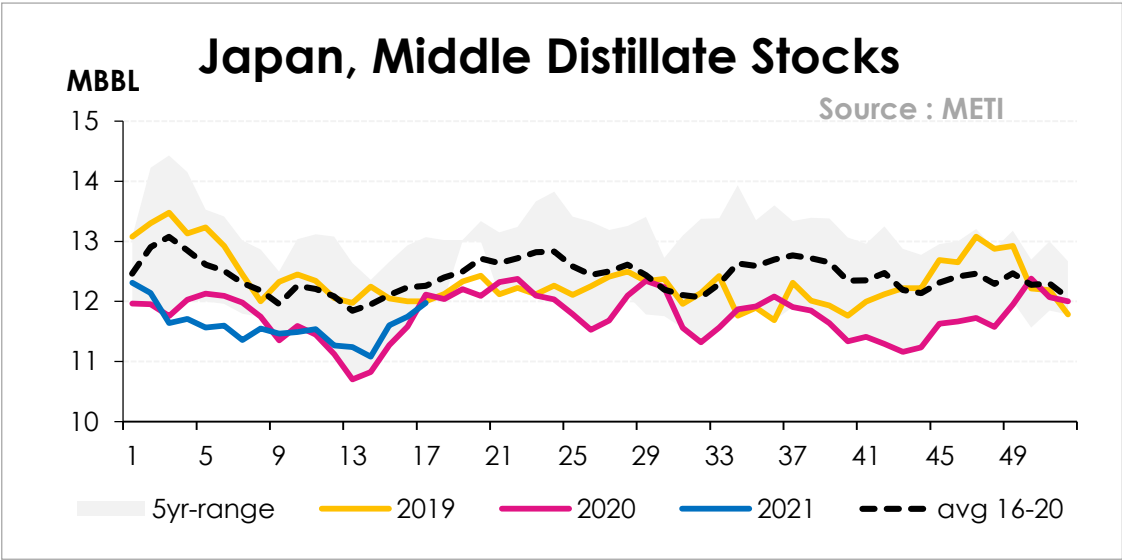
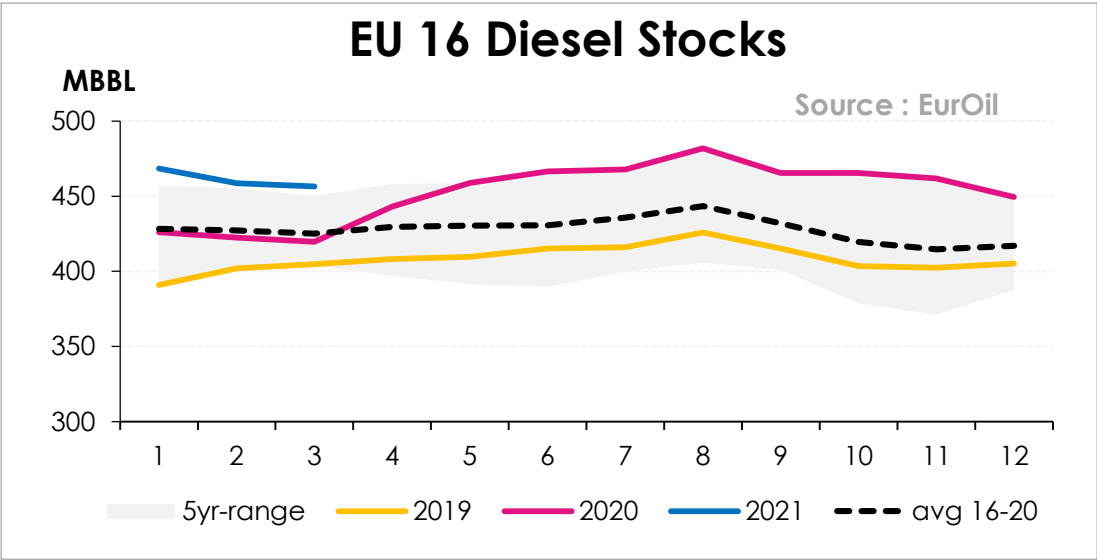
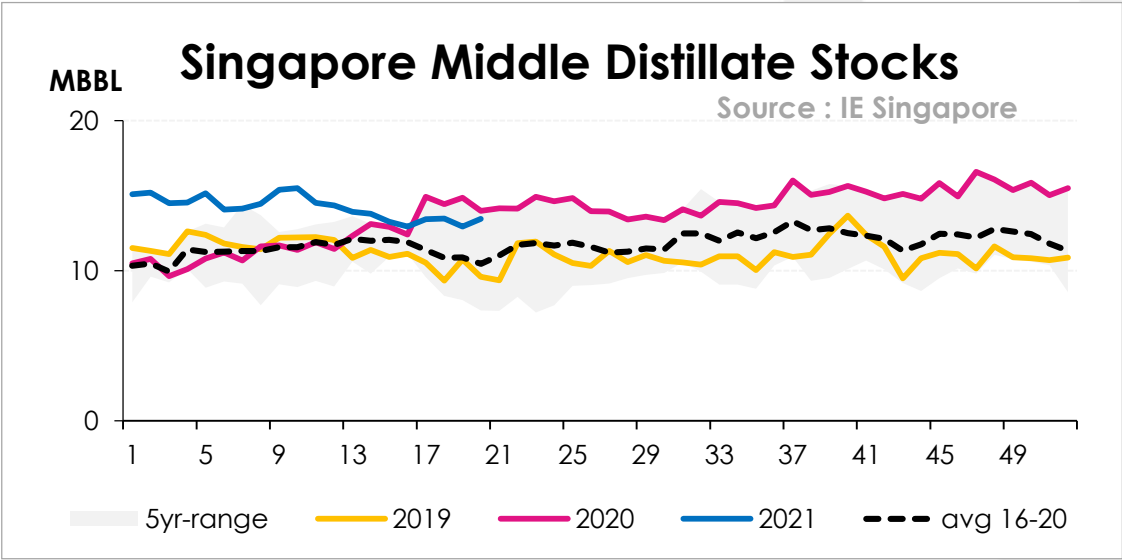
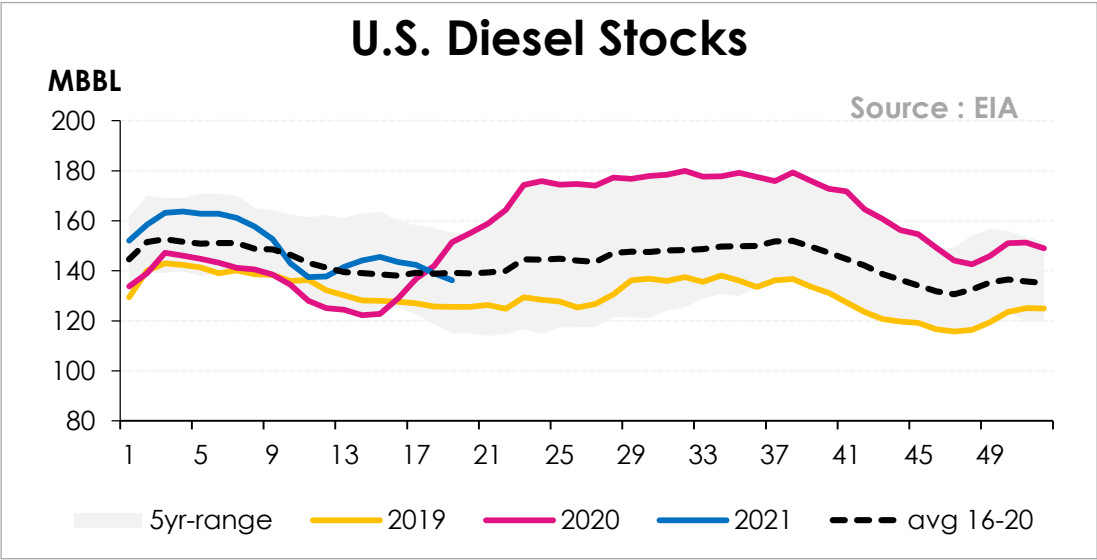
Global Crude Oil Inventories



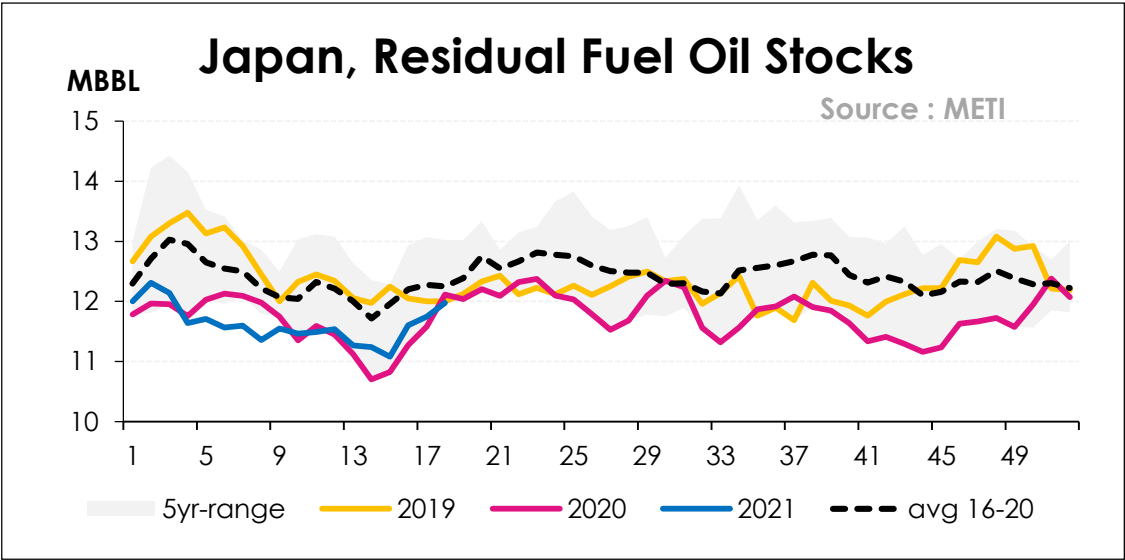
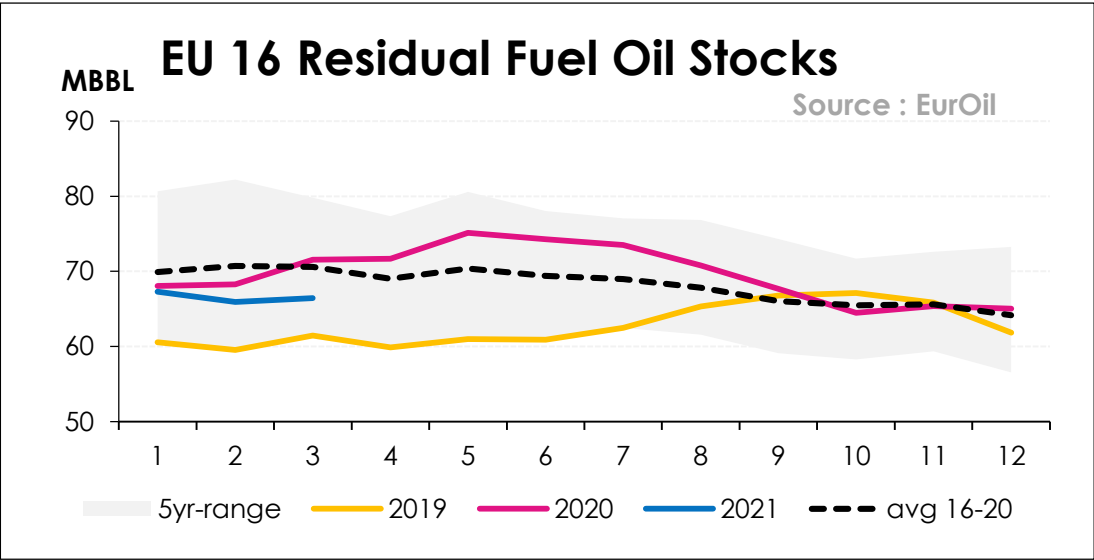
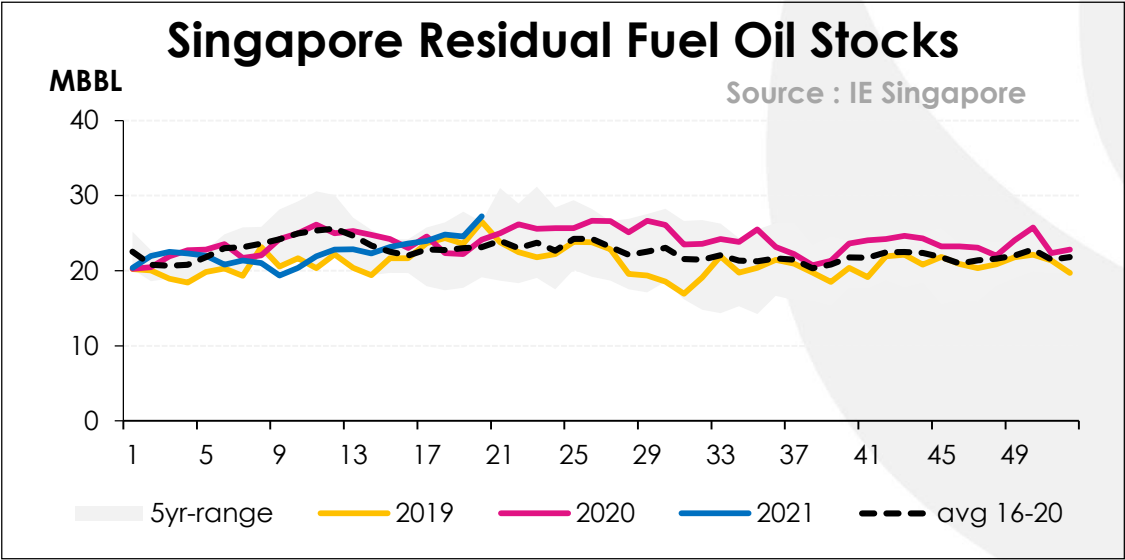
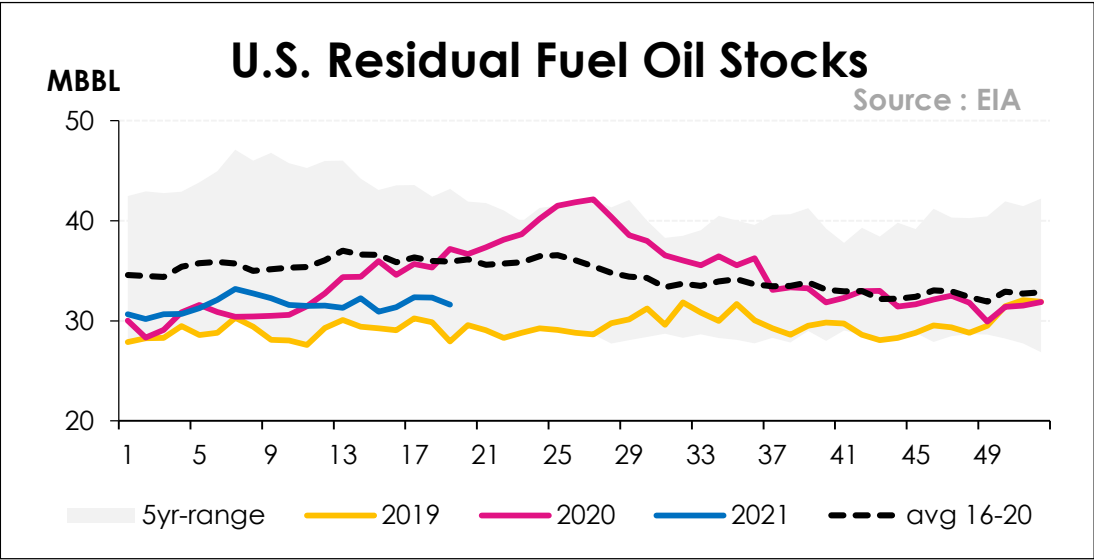
Global Gasoline Inventories



Global Middle Distillate Inventories



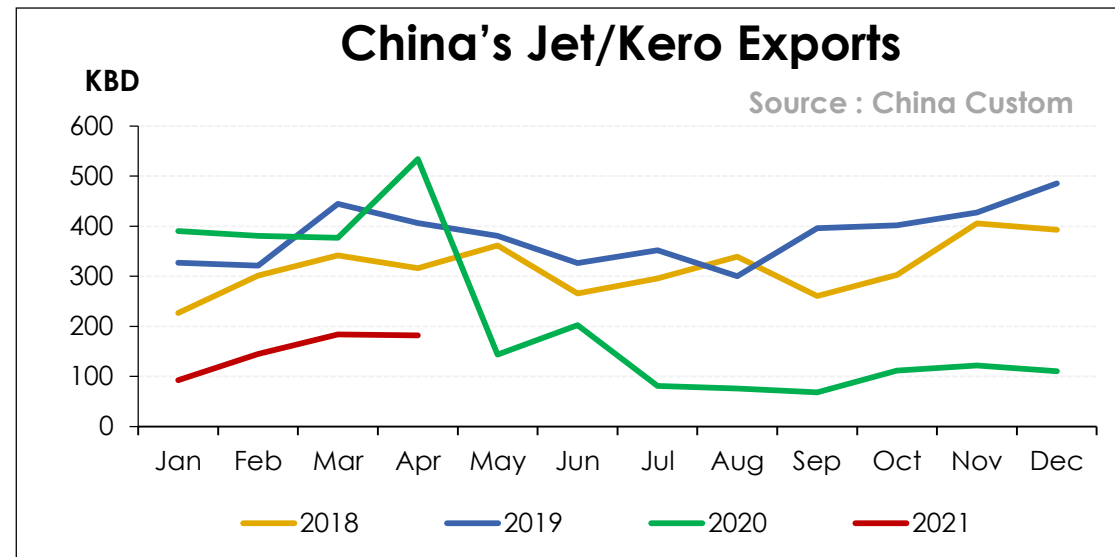
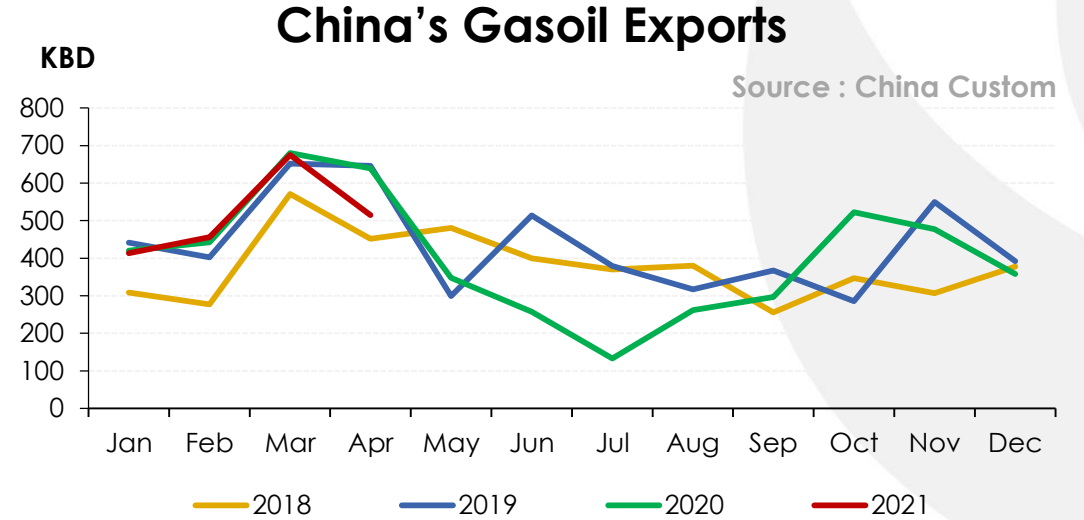
Global Fuel Oil Inventories



China's Gasoline Exports

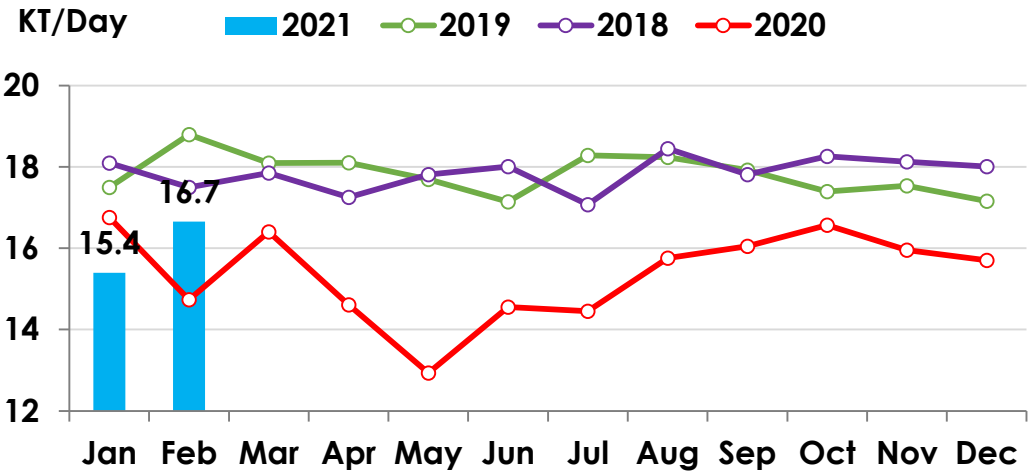
Source : China Custom

Month	2018	2019	2020	2021
1	280	420	370	520
2	270	180	410	500
3	450	470	500	430
4	350	330	540	460
5	400	230	190	
6	340	290	220	
7	250	430	310	
8	340	290	330	
9	210	470	330	
10	180	480	520	
11	180	520	360	
12	350	480	400	



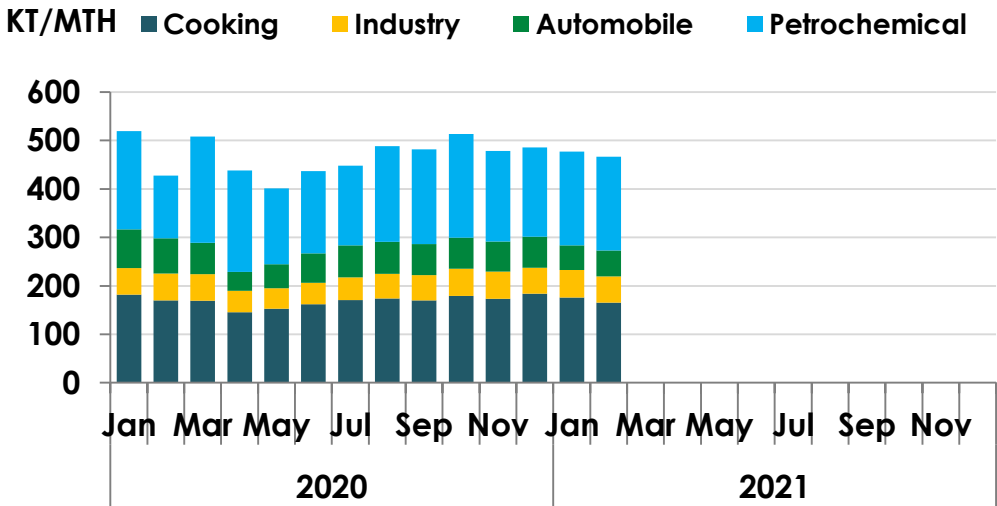
Domestic LPG Demand

Thailand LPG Demand



Remark : LPG demand includes Petrochemical consumption

LPG Demand by Sector



LPG Demand Highlight

- In 2M'21, LPG demand increased by 1.3% YoY following the increase in industry and petrochemical sectors. LPG demand in the industry and petrochemical sector rose by 2.3% and 18.5% YoY, respectively as manufacturing production started to be recovered following economic improvement. However, cooking and automobile sectors were still plunged by 1.5% and 30.1% YoY, respectively as the pandemic partially pressured the consumers spending and transportation activities compared to pre-COVID level demand during Jan'20-Feb'20.

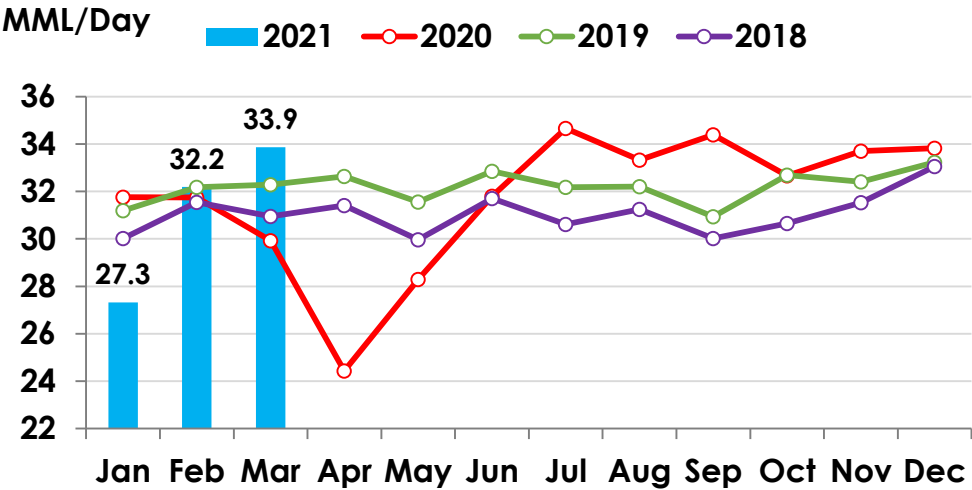
Outlook for 2021

- In 2021, LPG demand is expected to recovered by 1.5% YoY, mainly from the cooking sector. Cooking demand tends to increase by 12.1% YoY as the demand would recover from the effect of COVID-19 pandemic last year. However, lower gasoline prices could make LPG price uncompetitive and encourage users to switch to oil. Besides, most of the registered taxis powered by LPG are gradually expired since 2021 onwards leading to the decrease of 4.9% YoY demand in automobile sector. While The demand in the industrial sector tends to plunged by 16.5% as LPG price could become higher than other feedstocks.

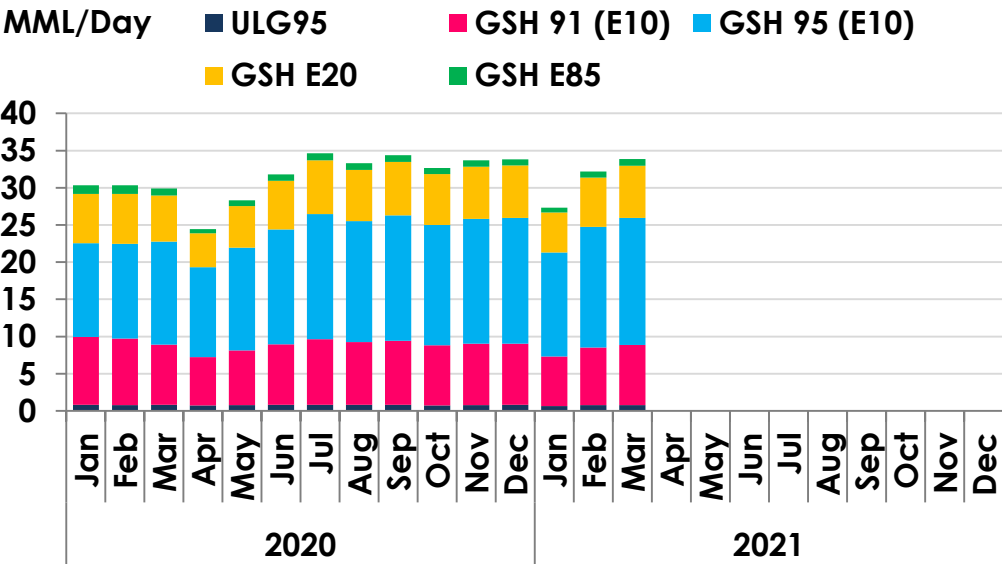
Source: EPPO, DOEB (As of Feb 2021)

Domestic Gasoline/Gasohol Demand

Thailand Gasoline/Gasohol Demand



Gasoline/Gasohol Demand by Grade



GASOLINE/GASOHOL Demand Highlight

- In Q1'21, Gasoline demand was reduced by 0.1% YoY to an average of 31.1 MML/day while only Gasohol* demand decreased by 0.2% YoY, settling at 30.4 MML/day. The demand was mainly pressured by the second wave of COVID-19 started in Jan'21, leading to lower transportation activities. Likewise, the pandemic has raised concerns about consumer's spending which was reflected in lower passenger car sales. However, the low COVID-19 infection rate during Feb'21-Mar'21 and easing restriction plans still supported the recovery of the domestic demand. Besides the effect of the pandemic, the narrow price gap between GSH95 and E20 partly supported the GSH95 demand to grow by 12.5%. While E85 plunged by 29.6% YoY following 8.0% lower oil stations providing E85 compared to last year.

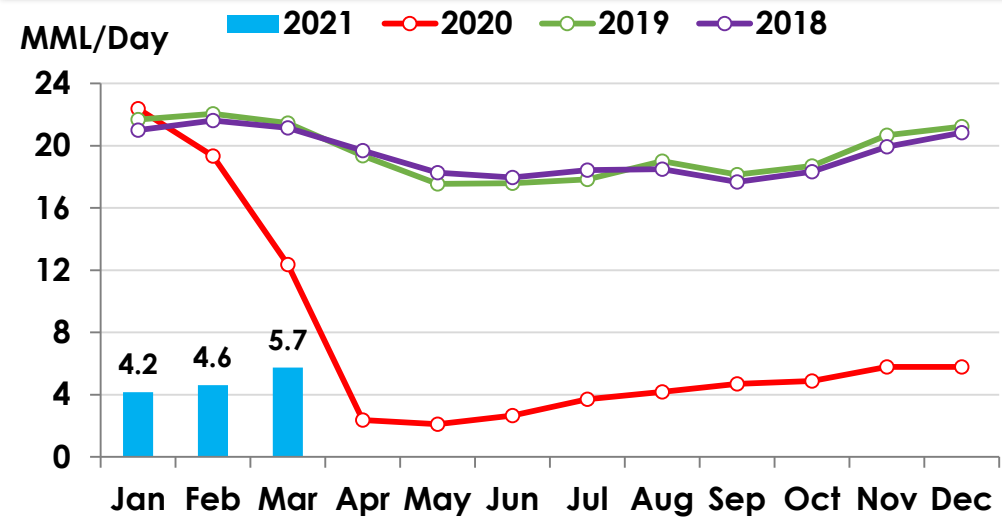
Outlook for 2021

- Gasoline consumption is expected to increase by 0.7% YoY which are still mainly pressured by partial lockdown measures for halting the second and third wave of COVID-19 pandemic since Jan'21 and Apr'21. Moreover, the stagnant economy would suppress people spending resulting in lower passenger car sales.

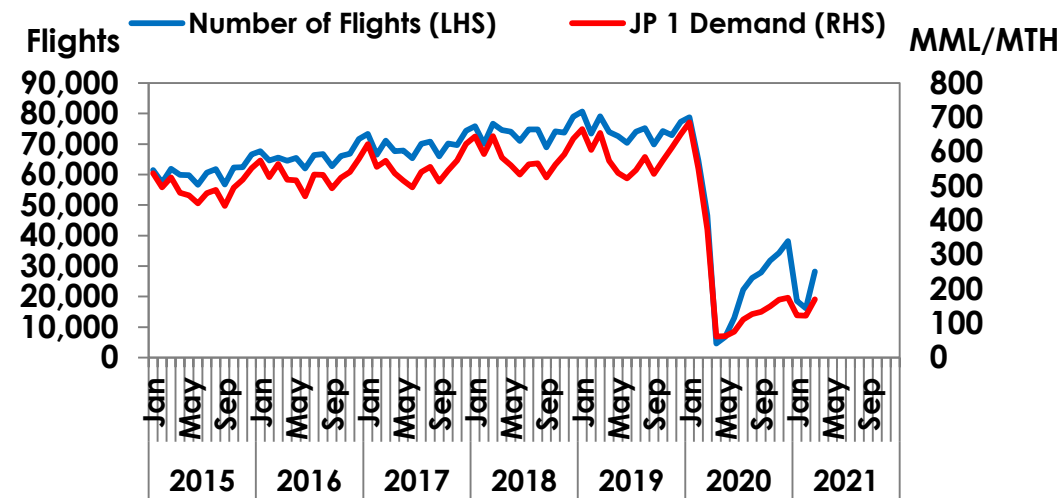
Source: DOEB (As of May 2021)

Domestic Jet Demand

Thailand JET Demand



JET-A1 demand and Number of flights



JET Demand Highlight

- In Q1'21, Jet consumption decreased by 73.1% YoY, as the domestic flight number dropped by 50.7% YoY from the flight suspension due to the second wave of the COVID-19 outbreak in Jan'21, while the international flight continued to contract sharply by 82.7% 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 81.3% slump in the passenger number in Q1'21. Nonetheless, the domestic demand started to recover in Feb-Mar'21 as the COVID-19 infection rate was slow down.

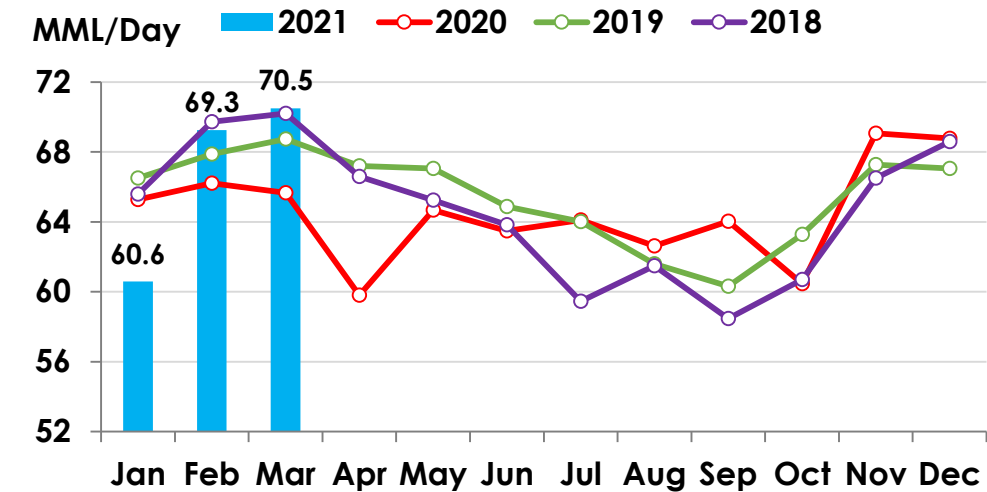
Outlook for 2021

- Jet demand growth is expected to decline by 9.9% 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.

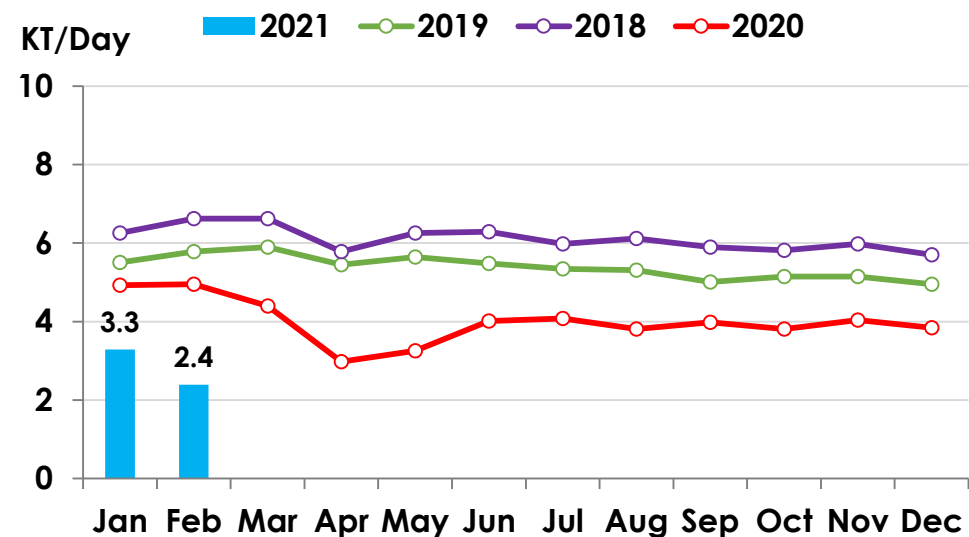
Source: DOEB, AOT, Department of Tourism (As of May 2021)

Domestic Gasoil and NGV Demand

Thailand Gasoil Demand



NGV Demand



Gasoil Demand Highlight

- In Q1'21, Gasoil demand increased by 1.5% YoY. Gasoil demand in Jan'21 was pressured by the economic slowdown from the second wave of COVID-19 outbreak in every region of Thailand. However, the Thai economy gradually improved in Feb-Mar'21 after the second wave of the outbreak subsided. Thus, the demand was advocated by the higher logistic movements and the recovery of manufacturing and agricultural production.

Outlook for 2021

- Gasoil demand is expected to rise by 0.7% 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 third wave of COVID-19 infections will pressure Gasoil demand.

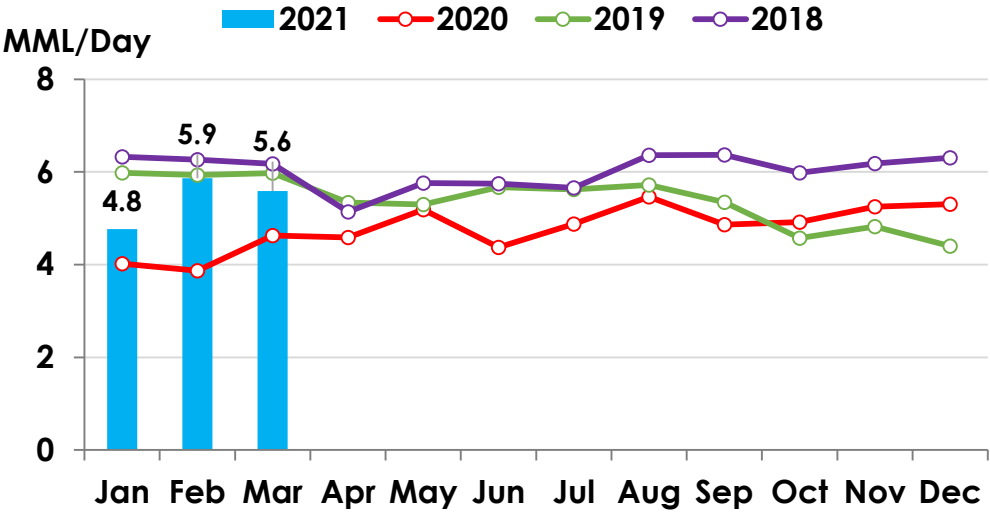
NGV Demand Highlight

- In 2M'21, NGV demand fell significantly by 42.1% YoY. Apart from effect of COVID-19 pandemic, the retail prices have been raised to reflect the actual costs and become uncompetitive. As a result, NGV users have switched to use a substitute for NGV.

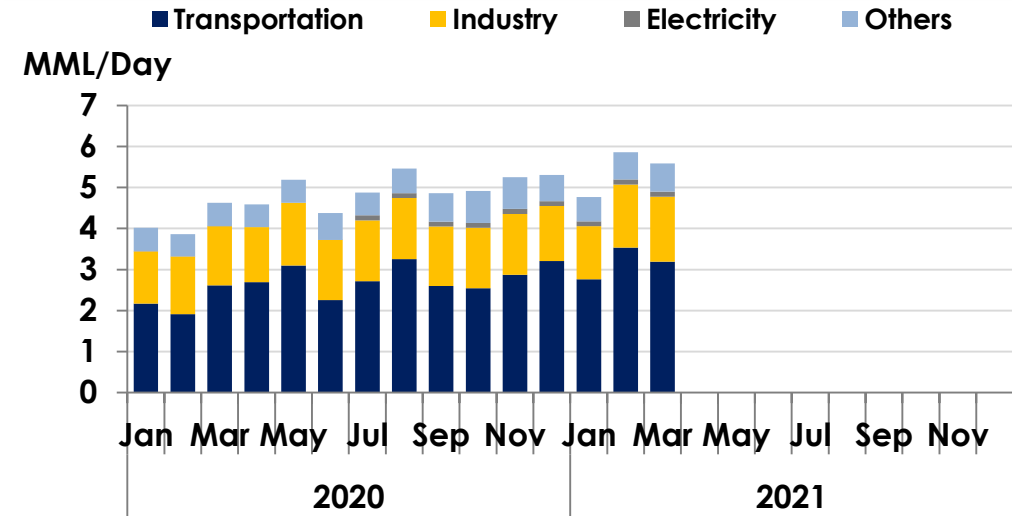
Source: DOEB (As of May 2021)

Domestic Fuel Oil Demand

Thailand Fuel Oil Demand



Thailand Fuel Oil Demand by Sector



Fuel Oil Demand Highlight

- In Q1'21, Fuel Oil consumption rose by 29.1% YoY, as the demand in the transportation sector, which accounted for 58.5% of total Fuel Oil demand, rose by 41.7% 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 27.2% of total Fuel Oil demand, increased by 27.2% 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 15.1% 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 May 2021)

Thank You

Any queries, please contact:



at email: ir@thaioilgroup.com

Tel: 662-797-2999 / 662-797-2961

Fax: 662-797-2976