

MEMBER OF
Dow Jones
Sustainability Indices
In Collaboration with RobecoSAM



Thai Oil Public Company Limited

Q4 & FY/18

Opportunity Day Presentation

28 February 2019

Time : 10.00 - 11.00 hrs.

Venue : Stock Exchange of Thailand, Building B, Room 704



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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.

Corporate Vision, Mission and Values

VISION	<p>Empower Human Life through Sustainable Energy and Chemicals</p>
MISSION	<ul style="list-style-type: none"> • To enrich stakeholders' well-being and deliver sustainable returns built upon innovation, technology and resilient portfolio with top class management and accountable corporate governance
VALUES	<div> <div> Professionalism Ownership & Commitment Social Responsibility </div> <div>  </div> <div> Excellent Striving Vision Focus Initiative Integrity Teamwork & Collaboration </div> </div>

Corporate Governance

Corporate Governance Policy

The board of directors, management and all staff shall commit to moral principles, equitable treatment to all stakeholders and perform their duties for the company's interest with dedication, integrity, and transparency.

Anti-Corruption Policy

The Board, the management, and employees must not corrupt or accept corruption of all forms in any circumstances, covering the business of the Company in every country and in every relevant agency. The Company defines guidelines, operating measures, and roles and duties of responsible persons, as well as regularly monitoring and reviewing the implementation of the anti-corruption policy in compliance with changes in businesses, rules, regulations, and relevant laws.

Roles and Responsibilities for Stakeholders

- Truthfully report company's situation and future trends to all stakeholders equally on a timely manner.
- Shall not exploit the confidential information for the benefit of related parties or personal gains.
- Shall not disclose any confidential information to external parties.

Whistle-Blowing Channels

Should you discover any ethical wrongdoing that is not compliance to CG policies or any activity that could harm the Company's interest, please inform:



Chairman of the Board or
Chairman of the CG Committee or
Chairman of the Audit Committee or
CEO/President or Company Secretary

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CG
Manual

<http://www.thaioilgroup.com>

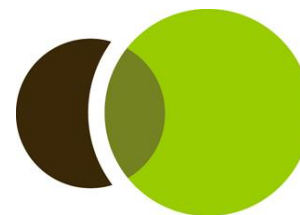


Our Achievement in Sustainable Development



6th Consecutive Year as the Member
of DJSI Emerging Markets

5th Consecutive Year of leading positions:
Oil & Gas Refining & Marketing



ROBECOSAM
Sustainability Award
Gold Class 2018

Presentation Agenda

TOP GROUP BUSINESS OVERVIEW

2018 KEY HIGHLIGHTS

2018 PERFORMANCE ANALYSIS

1H/19 MARKET OUTLOOK



TOP GROUP BUSINESS OVERVIEW

Thai Oil Group Business Structure

OIL REFINERY



Thaioil (TOP)

Capacity :
275,000 barrels/day

PETROCHEMICAL & LUBE BASE



Thai Paraxylene
(TPX)

Aromatics Capacity:

Paraxylene
527,000 tons/annum
Mixed Xylene
52,000 tons/annum
Benzene
259,000 tons/annum
Total 838,000 tons/annum



Thai Lube Base
(TLB)

Lube Base Oil

Capacity :
Base Oil
267,015 tons/annum
Bitumen
350,000 tons/annum
TDAE
67,520 tons/annum

75.0% Mitsui 25.0%

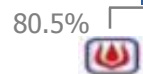
LABIX Company Limited
(LABIX)

LAB producer and distributor
Capacity: 120 KTA COD: 2016

100.0%



Thaioil Solvent
Through TOP Solvent (TS)



Sak Chaisidhi
(SAKC)

Solvent manufacturer
Capacity : 141,000
tons/annum



Solvent distribute
in Thailand



Top Solvent
Vietnam

Solvent distribute in
Vietnam

100.0%

Thaioil &
TP 29.7%
PTT 22.6%
PTTGC 22.7%

POWER GENERATION



Thaioil Power
(TP)

Sells Electricity/Steam to
Group

Small Power Producer Program

3-on-1 Combined Cycle
Electricity 118 MW
Steam 216 tons/hour

TOP SPP

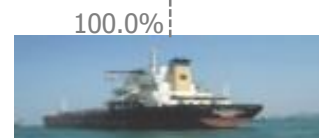
2 Small Power Producers
Total capacity: 239 MW
Steam capacity 497 T/H
COD 2016



Global Power Synergy
Public Company Limited

Principal power plant of PTT
Total Equity Capacity
1,922 MW of electricity
1,582 tons/hour of steam
2,080 Cu.m./hour of Industrial
water
12,000 RT of Chilled water

TRANSPORTATION & OTHER

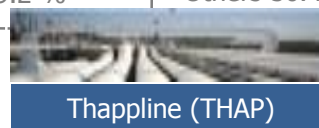


Thaioil Marine
(TM)

- 5 Oil & Chemical Tankers
Capacity : 22,800 DWT
- Crude Tankers: 3VLCCs
Capacity: 881,050 DWT
- 14 crew & utility boats
(120 DWT each)
- 2 Large vessels for crude,
feedstock & product
storage and transportation
services capacity: 200,000
DWT
- Ship management services

9.2 %

PTTOR 40.4%
Others 50.4%



Thappline (THAP)

Multi-product Pipeline
Capacity: 26,000 m.lts/y

PTT Group 85.0%

Sarn Palung Social
Enterprise

Supports execution of social
enterprise of PTT group

PTT Group 80.0%

PTT Digital Solutions
(PTT Digital)



Thaioil Ethanol
(TET)

50.0%

Sapthip (SAP)

Cassava Based Ethanol
Capacity : 200,000 lts/day

Others BCP
57.4% 21.3%

Ubon Bio Ethanol (UBE)

Cassava/Molasses Based Plant
Capacity : 400,000 lts/day

100.0%

Thaioil Energy Services
(TES)

Proceeds the business on
various professional of
management services

100.0%

Thaioil Treasury Center
(TTC)

Increases financial efficiency
of Thaioil group

PTT 40.0%
PTTGC 20.0%
IRPC 20.0%

PTT Energy Solutions
(PTTES)

Provides engineering
technique consulting services

Core Business

Value Enhancement

Earning Stability

Marketing / IT Support

Net Profit Contribution

51%

24%

13%

12%




■ Refinery
■ Aromatics
■ Lube Base
■ Others

(Avg. from 2006 – 2018)



2018 KEY HIGHLIGHTS

2018 Key Market Drivers Highlights

<p>Refinery</p>  <ul style="list-style-type: none"> ▪ Soften refinery margins pressured by higher crude premium due to supply tightness followings OPEC's cut and weak gasoline spread due to high inventory worldwide. But negative impact was partially offset by strong middle distillates margin supported by decent demand and limited supply ▪ Slightly lower crude price toward year end pressured by 1) U.S. recorded high production 2) waiver of imported Iranian crude by U.S. until 1 May, 2019 	<p>Implication</p> <ul style="list-style-type: none"> ■ Mkt GRM at 4.7 \$/bbl¹⁾ (2017 = 6.7 \$/bbl) ■ (0.4) \$/bbl inventory loss²⁾ (from stock gain 0.9 \$/BBL in 2017) <p>¹⁾ Include Margin and Productivity Improvement ²⁾ Based on refinery intake</p>
<p>Aromatics & LAB</p>  <ul style="list-style-type: none"> ▪ Robust aromatics contribution mainly from strong PX spread supported by 1) supply tightness as the start-up of PetroRabigh (1.3 MTA) and Nghi Son (0.7 MTA) were not at full capacity 2) robust demand from downstream product i.e. PTA & Polyester 	<p>+ Robust Aromatics & LAB Margins³⁾ (GIM contribution 1.8 \$/bbl from 1.6 \$/bbl in 2017)</p> <p>³⁾ Aromatic contribution including LAB</p>
<p>Lube Base</p>  <ul style="list-style-type: none"> ▪ Soften Base Oil spread pressured by additional base oil supply mainly from Saudi Arabia (0.89 MTA) and China (0.65 MTA) 	<p>■ Soften Lube Base Contribution (GIM contribution 0.5 \$/bbl from 0.8 \$/bbl in 2017)</p>

Refinery + Aromatics & LAB + Lube Base

\$/BBL	FY/17	FY/18
Market GIM	9.1	↓ 6.9
Inventory Gains/ (Loss) ⁴⁾	0.8	↓ (0.3)
Accounting GIM	9.9	↓ 6.6

⁴⁾ Based on integrated intake

2018 Key Achievements

Key Achievements 2018

Operational Excellence



Growth & Profitability Improvement



Sustainability & Awards



Maintain high reliable production

	2018	2017
Refinery	113 % *	112 %
Aromatic	89 %	83 %
Base Oil	84 %	88 %

* Planned MTA CDU-1 (May-Jun'18)

Capture high local & Indochina sales

	2018	2017
Local	86 %	86 %
Indochina	9 %	9 %
Other exports	5 %	5 %

- 2018 Dividend 2.65 Baht per share approx. 5,406 MB

- In Aug, EGM approved investment in CFP Project CAPEX USD 4.8 bn. And, in Oct, Thaioil signed EPC Contract, with a consortium of companies

- In Apr, TTC Successfully did Liability Management Transactions to enhance debt management efficiency. In Nov, TTC issued USD 1bn to support CFP investment

- Subsidiaries financial management successfully refinanced LABIX and TMS

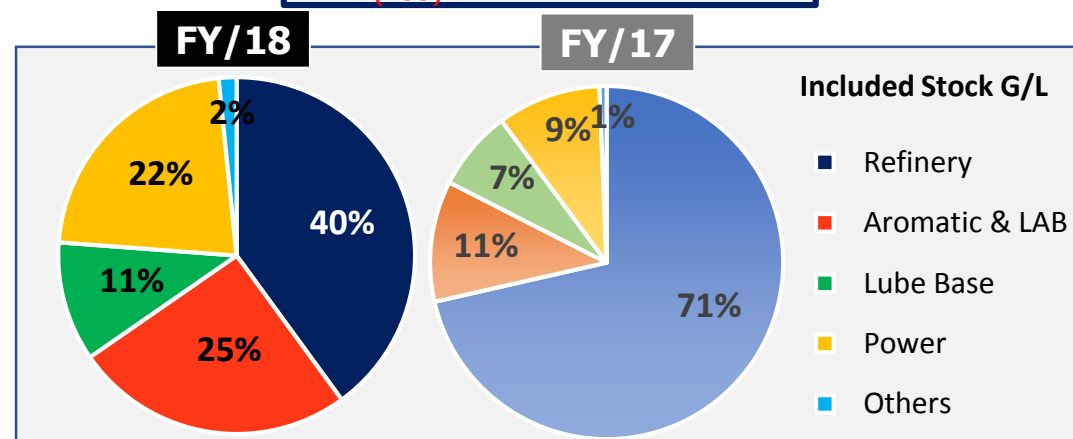
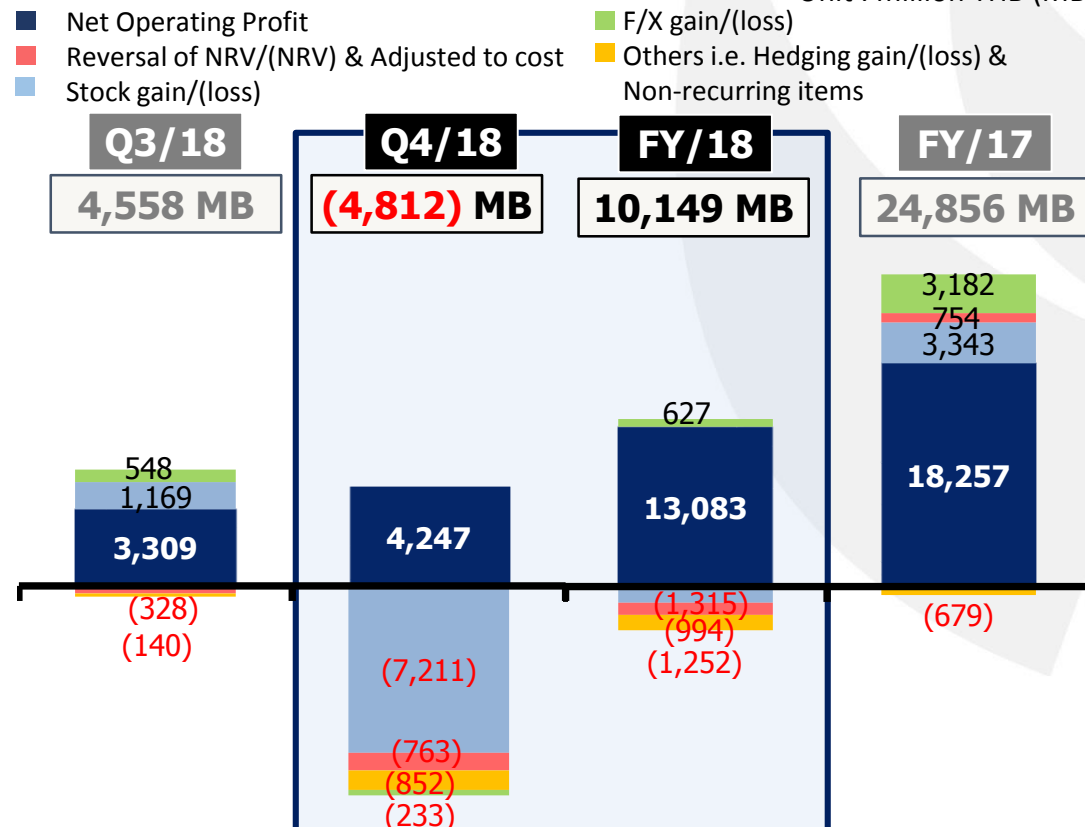
- Sustainability Member for Oil & Gas Industry for 6th consecutive years of DJSI Emerging Markets

- Best Company Performance Awards 2018, listed company with market cap > 100 Bn THB from SET

- Best IR in energy sector – South East Asia, IR Magazine 2018

TOP Group Net Profit







Unit : million THB (MB)



2018 Margin and Productivity Improvement (VS Corporate Plan)

Margin Improvement

(Hydrocarbon Management : HMR)
and **Productivity Improvement**
(Non HMR)

- ✓ **21%** Higher domestic/
better product
premium 
- ✓ **18%** Plant optimization 
- ✓ **17%** Crude Enhancement 
- ✓ **8%** Higher Intake 
- ✓ **3%** Energy improvement 
Energy
- ✓ **2%** VLCC freight &
demurrage saving 
- ✓ **10%** Others

Cost Management

ORCHESTRA

Symphony



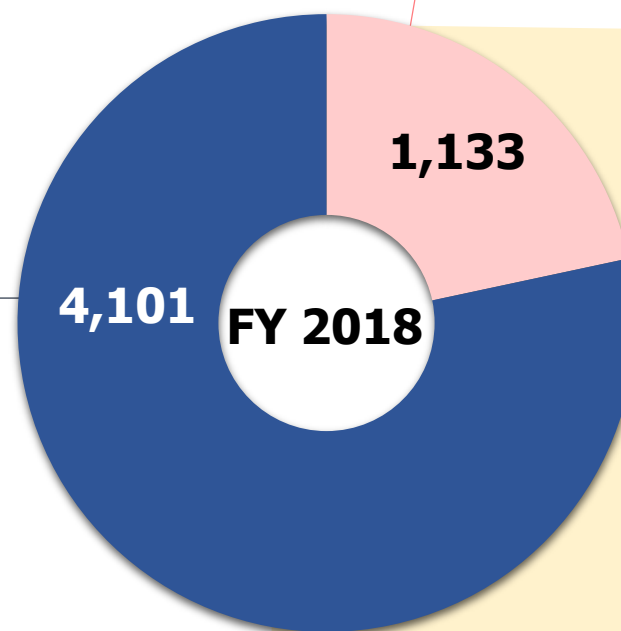
523 MB



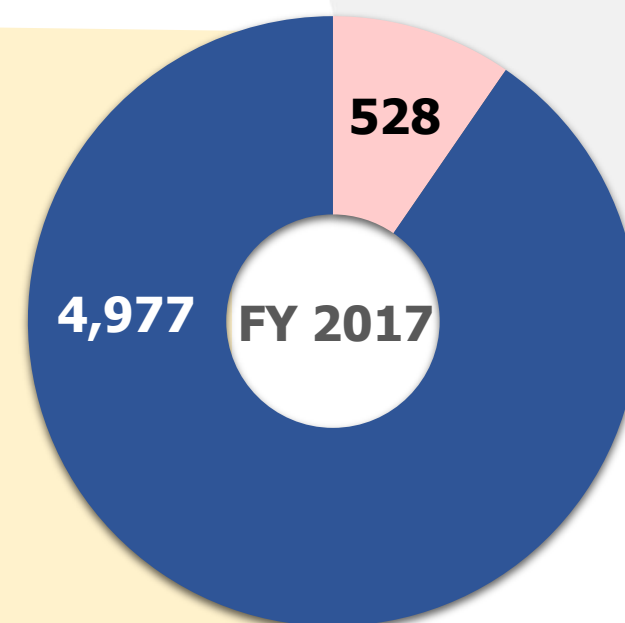
610 MB

General & Admin , Procurement & warehouse ,
Operation & Maintenance , Project & Manpower
management

Unit: million THB



THB 5,234 mn*



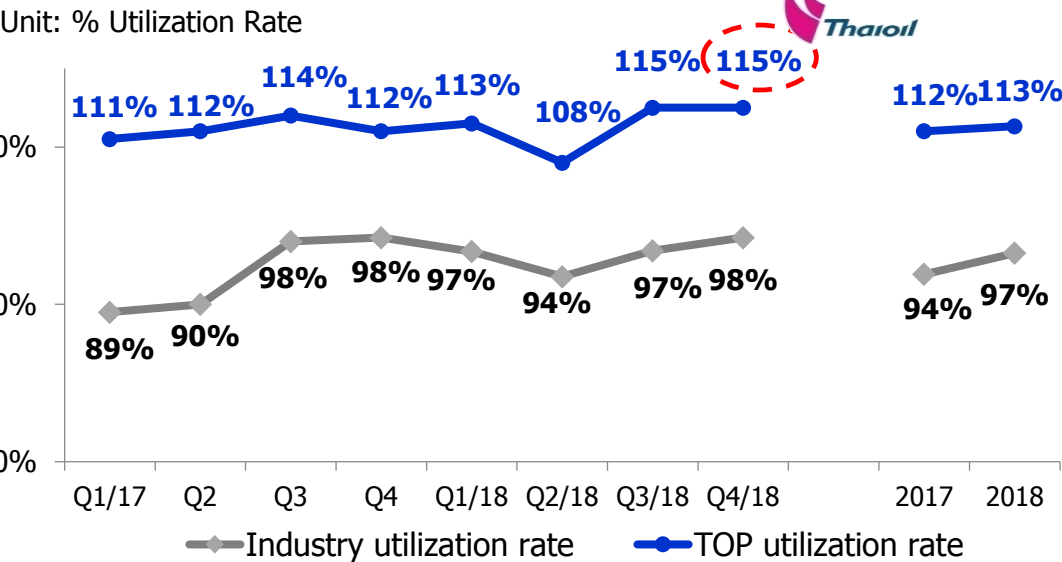
THB 5,505 mn*



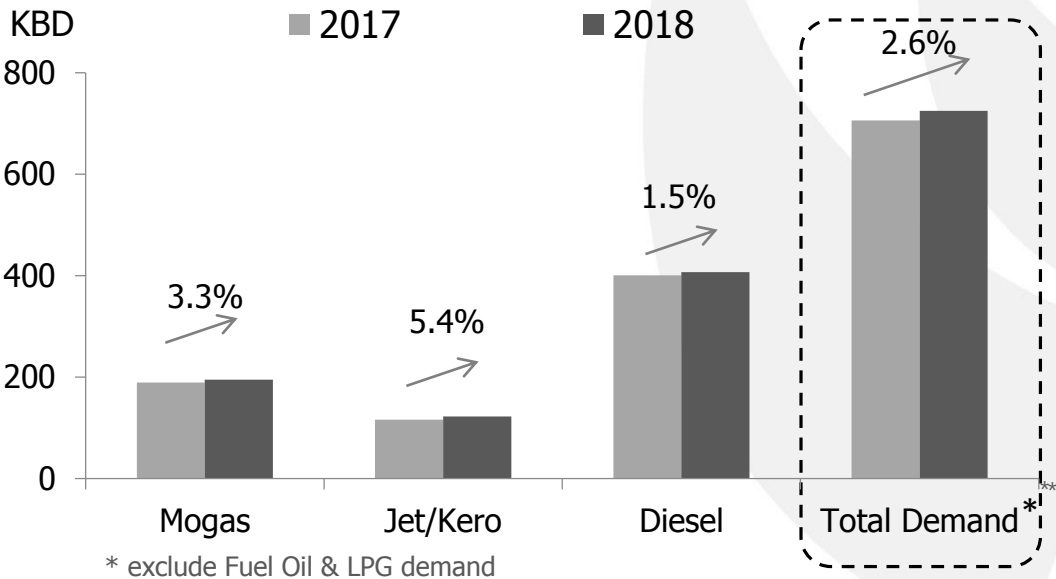
2018 PERFORMANCE ANALYSIS

Refinery: Maintain High Utilization Rate

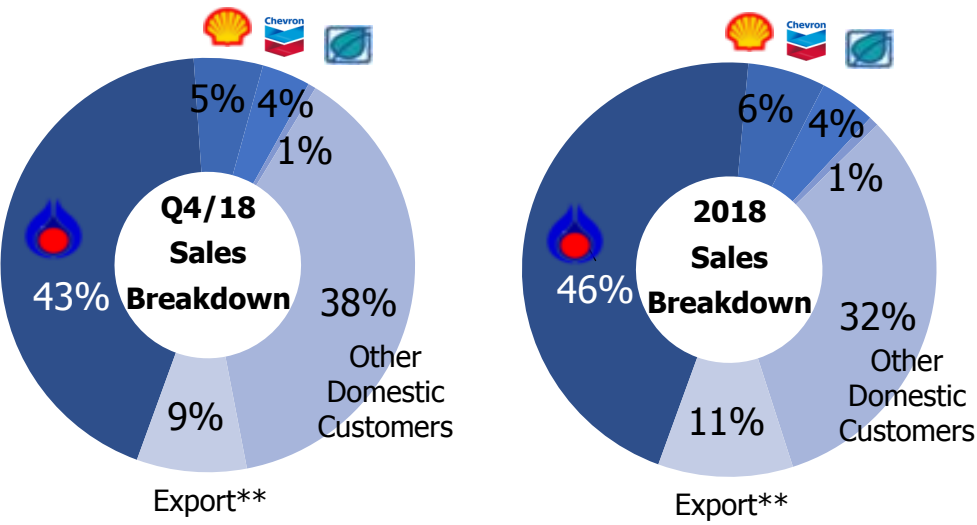
TOP/ Domestic Refinery Utilization Rate



Domestic Oil Demand

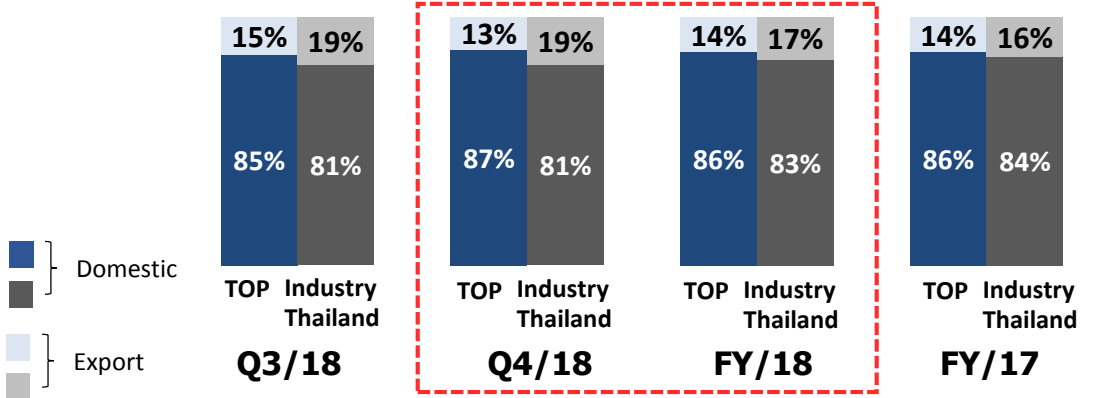


Sales breakdown by customers



TOP's Domestic Sale vs Industry***

Export	Q3/18		Q4/18		FY/18		FY/17	
	TOP	Ind.	TOP	Ind.	TOP	Ind.	TOP	Ind.
CLMV	8%	9%	8%	10%	9%	7%	9%	6%
Others	7%	10%	5%	9%	5%	10%	5%	10%



** Excludes export sale through PTT

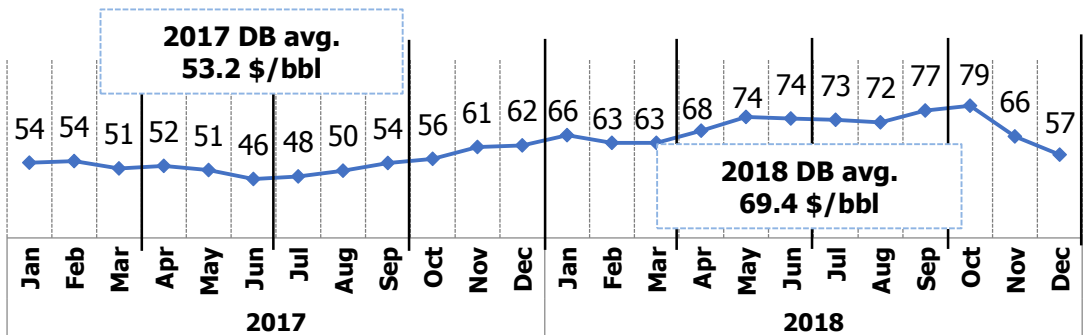
*** Source: Department of Energy Business, Ministry of Energy

Q4/18: Lower Mkt GRM pressured by Weak Gasoline Spread

Dubai Crude Price & Key Petroleum Product Spreads

	2017				2018				2017	
\$/bbl	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
DUBAI (DB)	53.1	49.8	50.5	59.3	63.9	72.1	74.3	↓67.4	69.4	53.2
ULG95 - DB	14.8	14.2	16.1	14.4	13.7	12.1	11.6	↓4.7	10.5	14.9
JET - DB	11.3	10.8	13.2	13.3	16.1	15.3	14.5	↑15.6	15.4	12.1
GO - DB	11.8	11.4	13.9	13.0	14.8	14.6	14.4	↑14.8	14.6	12.5
HSFO - DB	(3.1)	(1.8)	(1.3)	(3.1)	(4.9)	(4.4)	(2.5)	↑1.4	(2.6)	(2.3)

Dubai Price
(US\$/bbl)



Refinery Utilization

Q3/18	Q4/18	2018	2017
115%	115%	113%	112%

% MB Intake/OSP*

36%/2.9	32%/2.5	35%/3.1	42%/1.7
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*Murban OSP over Dubai (\$/bbl)

Q1TD'19 (15 Feb 19)

ULG95-DB	=	1.4 \$/bbl
JET-DB	=	12.9 \$/bbl
GO-DB	=	12.0 \$/bbl
HSFO-DB	=	0.1 \$/bbl

Q4/18 Market GRM

- **Weak gasoline spread** due to high inventory worldwide
- + **Higher middle distillate margin** supported by winter demand as well as **improved FO spread** due to tight supply
- **Lower crude price** due to more supply after OPEC and Non OPEC increased production 1 MBD

Q4/18 Performance

- + **Highest refinery run rate at 115%**

2018 FY

- **Lower 2018 Market GRM** due to higher crude premium

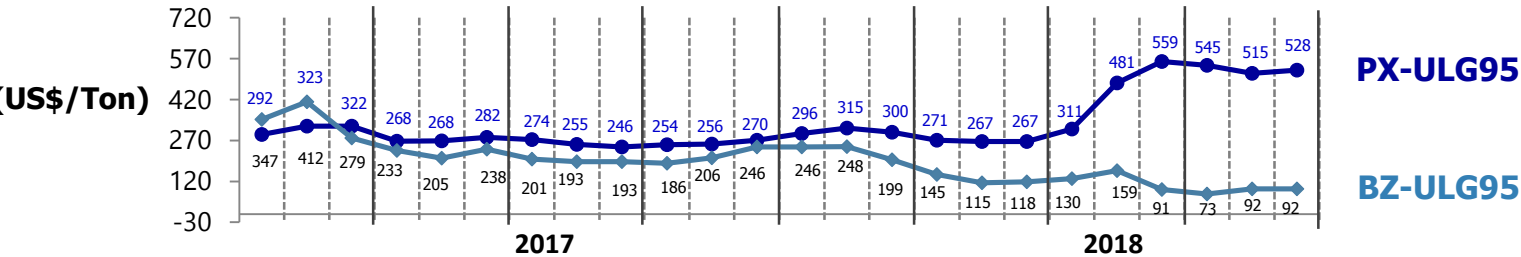
Gross Refinery Margins - GRM

	2017				2018				2017	
\$2.7/bbl	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
Market GRM	6.5	6.1	8.1	6.0	5.7	4.0	5.0	3.9	4.7	6.7
Stock G/(L)	(0.2)	(2.2)	2.4	3.6	0.4	5.0	1.2	(7.5)	(0.4)	0.9
Accounting GRM	6.3	3.9	10.5	9.6	6.2	9.0	6.2	(3.6)	4.3	7.6

Q4/18: Robust Aromatics Contribution supported by Strong PX spread

Aromatics Spreads and Margins

	2017				2018					2017
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
PX**-ULG95	312	273	258	260	304	268	451	↑528	388	276
BZ**-ULG95	346	226	195	213	231	126	126	↓81	141	245



Aromatics Production			
Q3/18	Q4/18	2018	2017
89%	94%	89%	83%

Q1TD'19 (15 Feb 19)	
PX**-ULG95	543 \$/ton
BZ**-ULG95	46 \$/ton

Q4/18 Market

- + **Strong PX spread** mainly due to supply tightness and demand from downstream product i.e. Polyester
- **Lower BZ spread** due to ample supply as most producers maximized PX production to capture decent PX spread

Q4/18 Performance

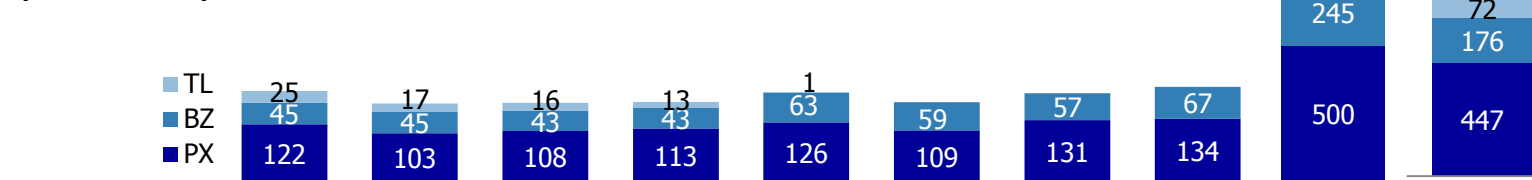
- + **Higher utilization rate** to capture decent PX margins

2018 FY

- + **Higher 2018 P2F** supported by PX supply tightness in 2H18 due to the delay of new capacity from Saudi Arabia and Vietnam

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

(Unit : KTon)



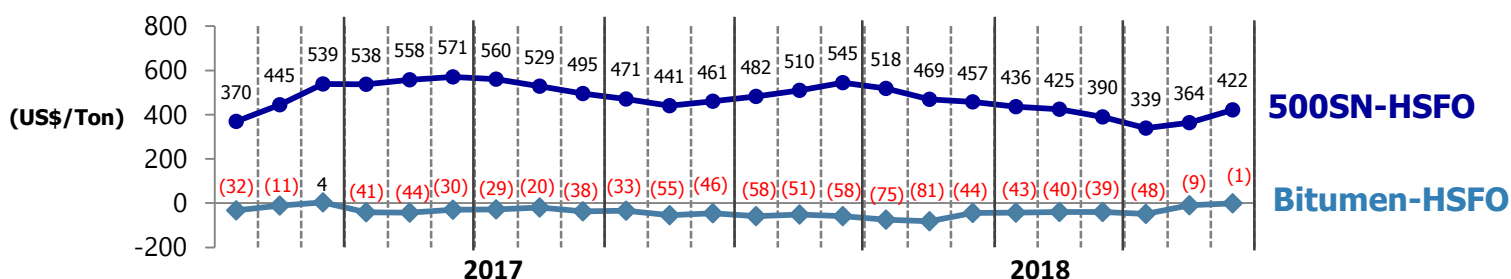
	2017				2018					2017
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
Aromatic P2F - \$/ton	126	91	84	93	110	87	129	151	121	99
Aromatic P2F - \$/bbl	16.4	11.9	11.0	12.2	14.5	11.6	16.9	20.2	15.9	12.9
GIM contribution***	2.1	1.5	1.4	1.5	1.7	1.3	2.0	2.2	1.8	1.6

** PX price = CFP Taiwan, BZ price = FOB Korea *** including LAB contribution since 25 Feb 2016
Remark: TOL -ULG95 Q3/18 = 58 \$/ton, Q4/18 = 73 \$/ton, FY/18 = 57 \$/ton

Q4/18: Stable Contribution as Soften Lube Base Spread

Base Oil & Bitumen Spreads & Margins

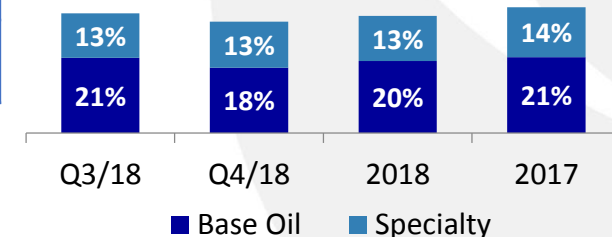
	2017				2018					2017
\$/ton	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
500SN-HSFO	451	556	528	458	512	481	417	↓ 376	447	528
BITUMEN-HSFO	(13)	(38)	(29)	(45)	(56)	(67)	(41)	↑ (19)	(46)	(29)



Base oil Production

Q3/18	Q4/18	2018	2017
72%	86%	84%	88%

% Base Oil & Specialty Sales Volume



Q1TD'19 (15 Feb 19)

500SN-HSFO	359 \$/ton
BITUMEN-HSFO	(49) \$/ton

Q4/18 Market

- **Soften lube spread** due to more supply after resumption from maintenance and additional base oil supply from China (0.65 MTA)
- + **Improved bitumen spread** as good demand especially in Indonesia and China

Q4/18 Performance

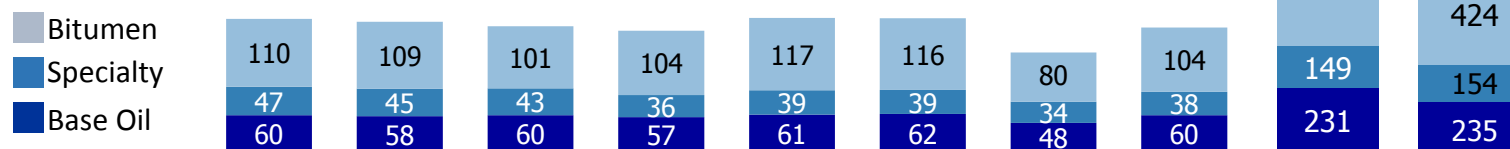
- + **Higher utilization rate** at 86%

2018 FY

- **Lower 2018 P2F** due to additional base oil capacity from Saudi Arabia and China

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

(Unit : KTon)



	2017				2018					2017
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	FY18	FY17
P2F -\$/ton	116	118	113	102	105	97	66	73	84	112
P2F -\$/bbl	17.6	17.9	17.1	15.5	16.0	14.8	9.9	11.1	12.8	17.0
GIM contribution	0.9	0.9	0.8	0.7	0.7	0.7	0.4	0.4	0.5	0.8

Q4/18 Power Sector Performance...Growing Contribution to the Group

Power Business Sector



Equity holding in



***TOP shareholding 24.29% (8.91% via TOP and 20.79% via TP)

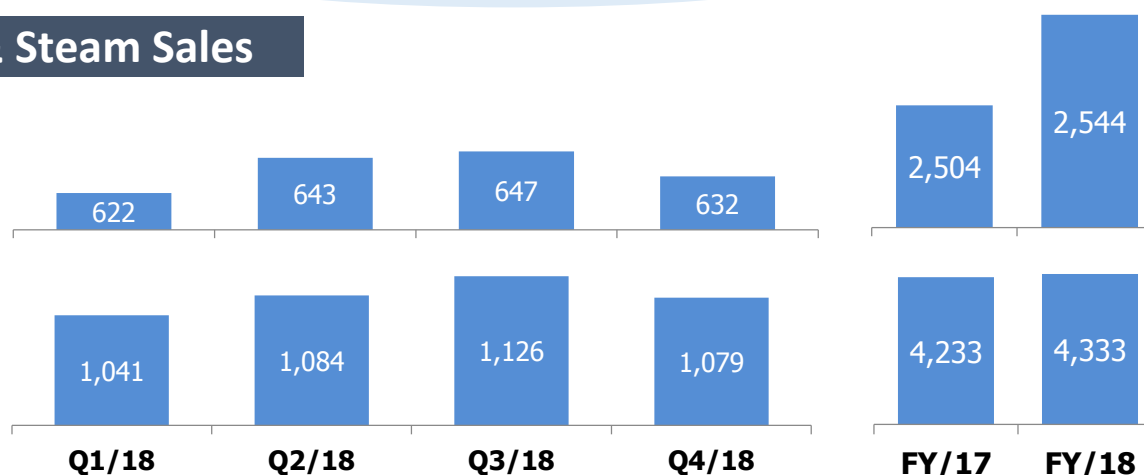
GPSC is an associate company of TOP. Equity method is applied to recognize share of profit. (EBITDA calculation excludes profit sharing from GPSC)

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

(1) 100% of TP and TOP SPP

Power & Steam Sales

Electricity ⁽¹⁾
(GWh)

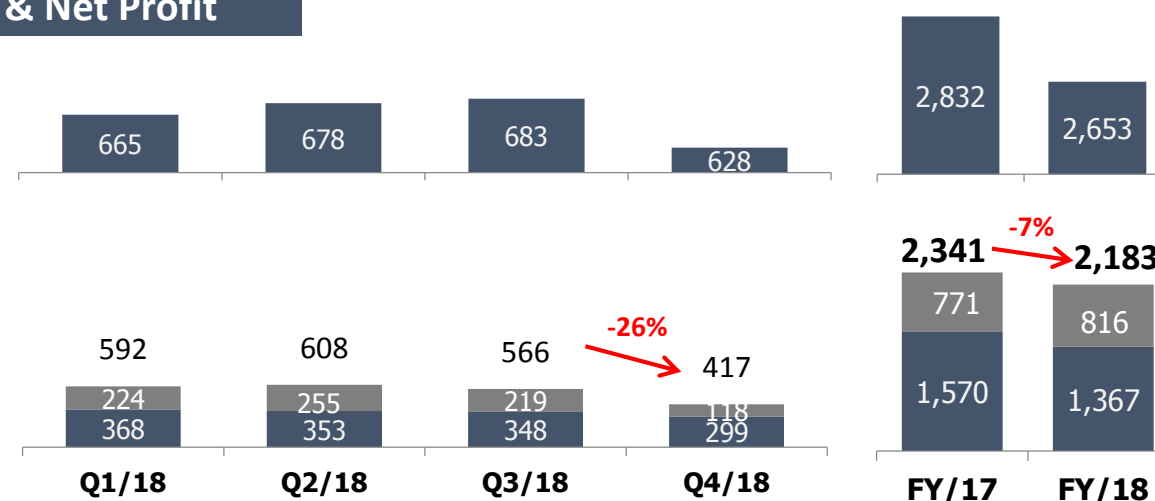


Steam ⁽¹⁾
(kton)

EBITDA & Net Profit

EBITDA ⁽³⁾
(THB million)

(3) consolidated EBITDA of TP and TOP SPP



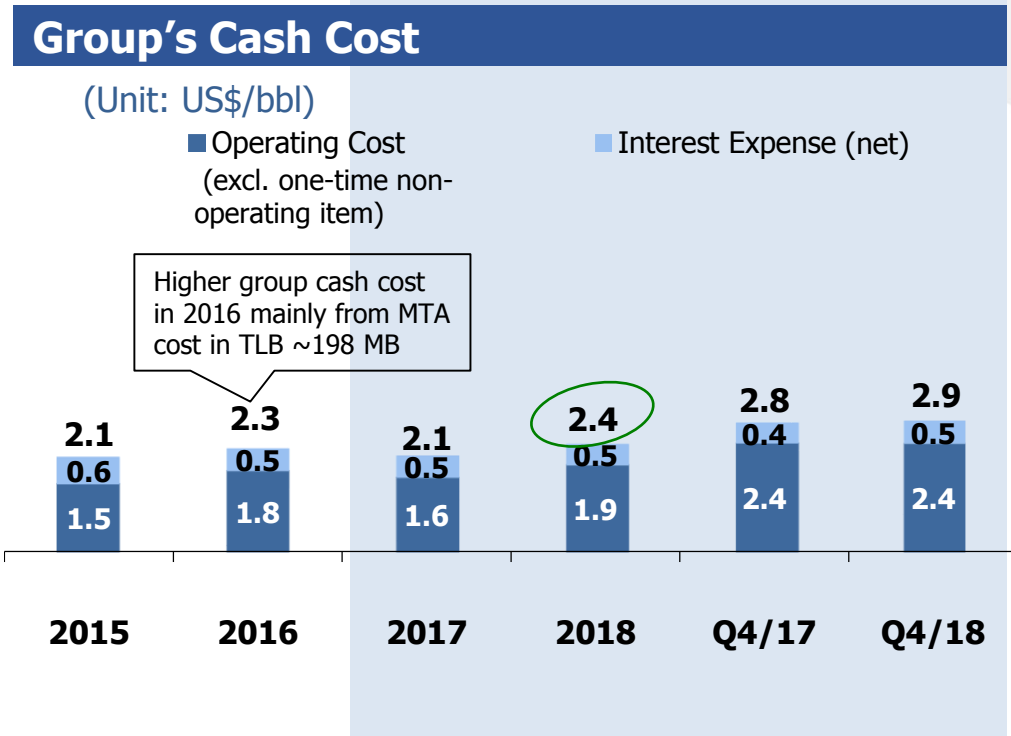
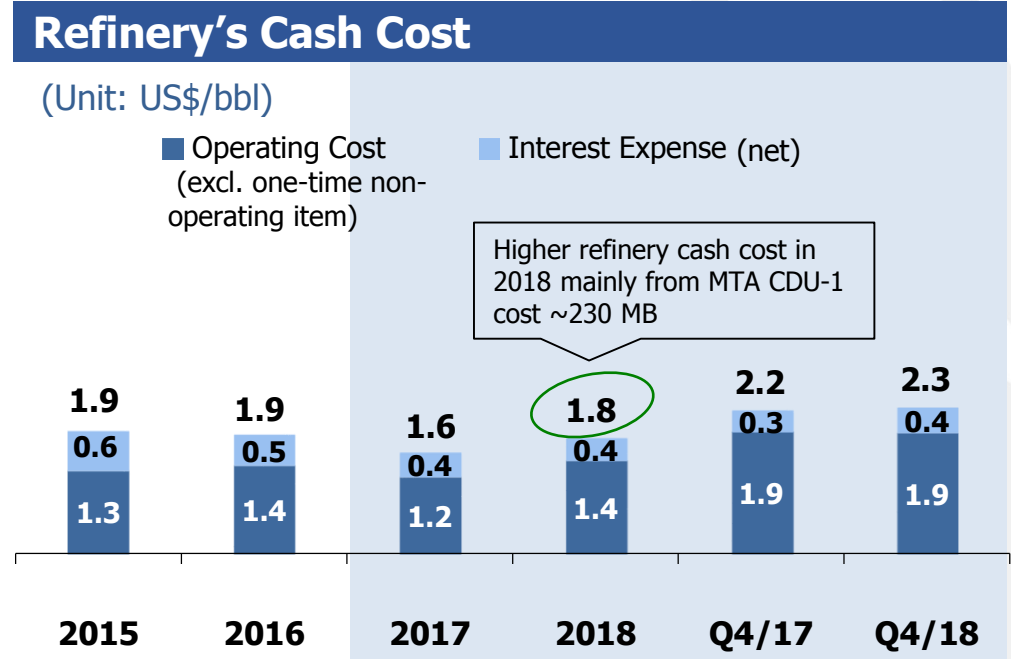
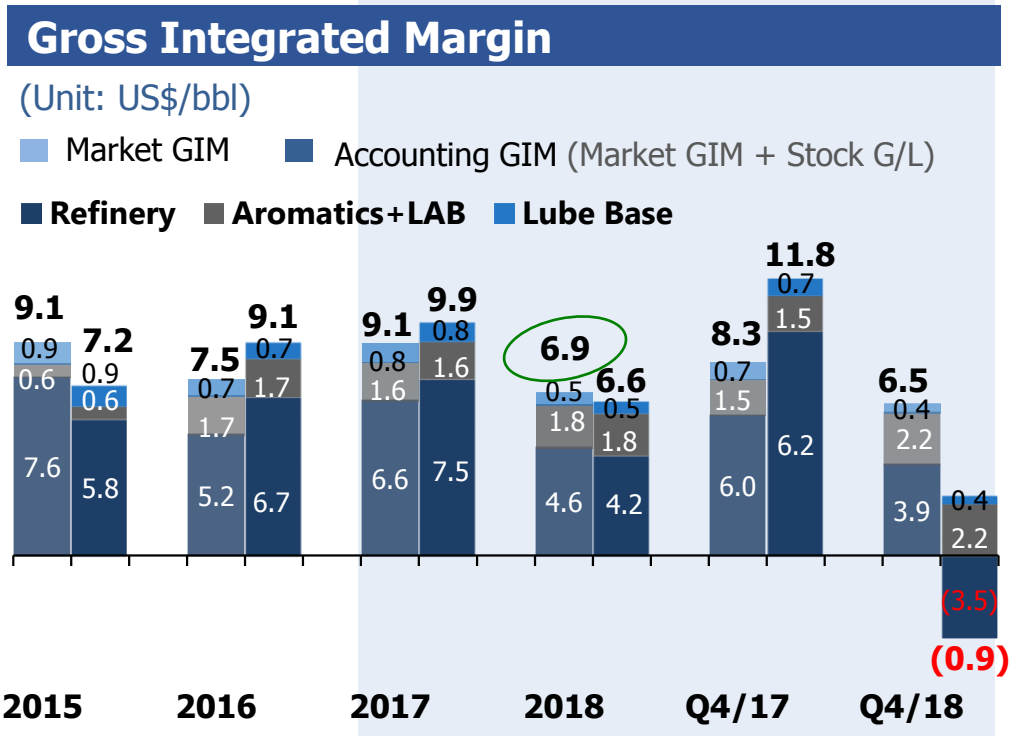
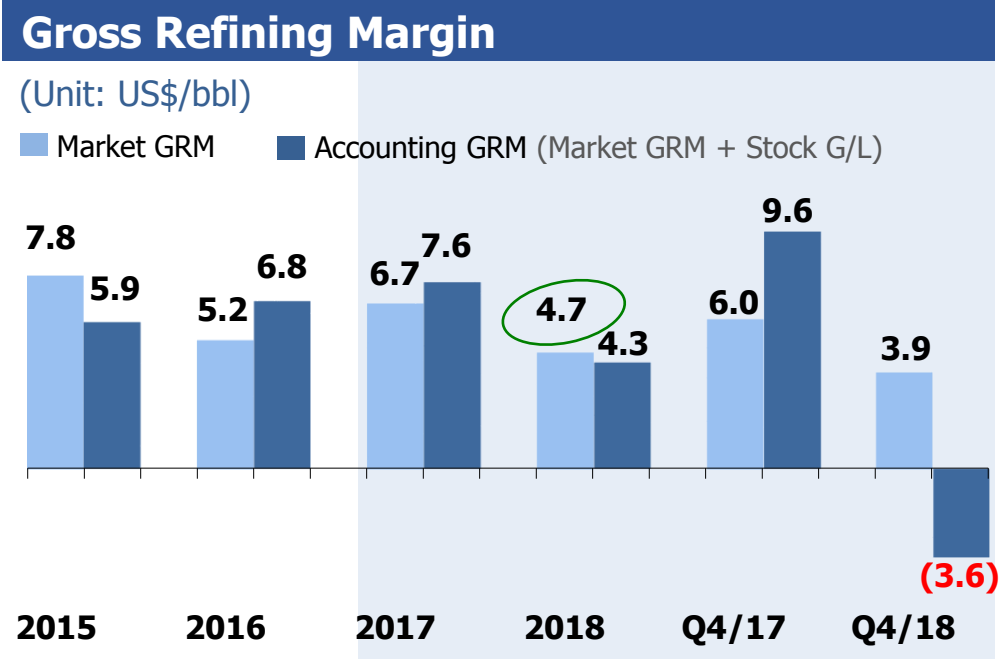
Net Profit ⁽⁴⁾
(THB million)

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

- Performance Highlight**
- **Lower power contribution** due to higher fuel cost
 - + **Higher contribution from GPSC's profit sharing**

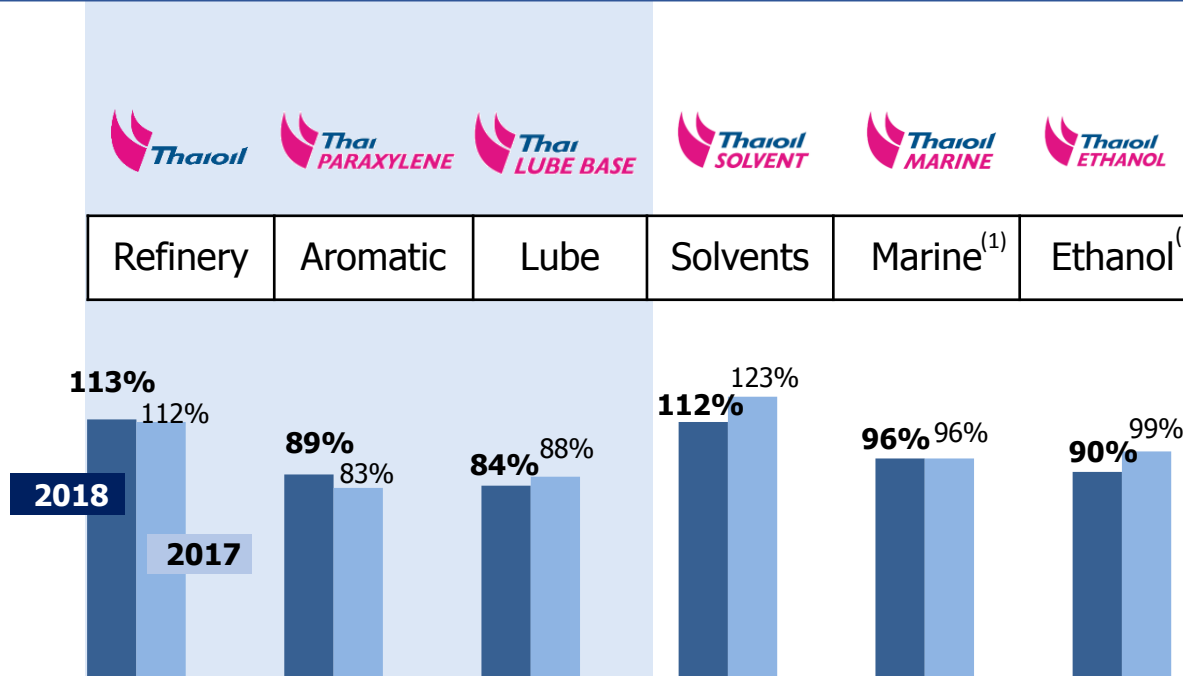


Integrated Margin & Competitive Cash Cost



2018: Performance Breakdown by Business Unit

Utilization/Production (%) & Net Profit (million THB)



Key Points

- **Refinery:** record high run rate to capture strong demand in domestic and Indochina market
- **Aromatic/LAB:** higher run rate to capture robust PX spread due to supply tightness
- **Lube:** declined contribution pressured by new base oil supply
- **Power:** lower contribution due to higher fuel cost
- **Solvents:** lower contribution due to lower sale gross margins pressured by high competitive market
- **Marine:** declined contribution pressured by slowdown in E&P business
- **Ethanol:** lower contribution due to higher feedstock cost while lower ethanol selling price

								Consol	Stock G/(L) & Reversal of NRV/(NRV)	Consol Excl Stock G/(L) & Reversal of NRV/(NRV)
Q1/18	3,747	751 ⁽³⁾	417	38	17	27	592 ⁽⁴⁾	5,608	272	5,336
Q2/18	3,374	196 ⁽³⁾	360	83	6	(19)	608 ⁽⁴⁾	4,795	4,455	340
Q3/18	2,948	837 ⁽³⁾	158	16	(2)	(10)	566 ⁽⁴⁾	4,558	1,169	3,389
Q4/18	(6,087)	747 ⁽³⁾	145	(14)	(65)	7	417 ⁽⁴⁾	(4,812)	(8,524)	3,712
2018	3,983	2,530 ⁽³⁾	1,079	123	(44)	4	2,183 ⁽⁴⁾	10,149	(2,628)	12,777

(1) U-rate of 5 Oil & Chemical Tankers (total capacity: 22,800 DWT, acquired 1 LPG vessel in Dec 18))

(2) U-rate of of TET Q1/18 includes SAPTHIP 87% and UBE 108%, Q2/18 includes SAPTHIP 73% and UBE 65%, Q3/18 includes SAPTHIP 91% and UBE 95%, Q4/18 includes SAPTHIP 96% and UBE 98%, FY/18 includes SAPTHIP 87% and UBE 92%

(3) Includes 75% of LAB net profit Q1/18 = 115 MB, Q2/18 = (161) MB, Q3/18 = 18 MB, Q4/18 = (28) MB, and FY/18 = (56) MB

(4) Apply on an equity accounted basis in the consolidated financial statement. (GPSC has been held by TOP 8.9% and TP 20.8%, TP has been held by TOP 74% & TOP SPP has been held by TOP 100%)

2018 TOP Group Consolidated P&L

(Unit : million THB)

	<u>Q4/18</u>	<u>Q3/18</u>	<u>QoQ</u>	<u>Q4/17</u>	<u>YoY</u>	<u>FY/18</u>	<u>FY/17</u>	<u>YoY</u>
Sales Revenue	99,755	101,261	(1,506)	89,443	10,312	389,344	337,388	51,956 (A)
Hedging Gain / (Loss)	(852)	(140)	(712)	(63)	(789)	(821)	(133)	(688)
EBITDA	(3,582)	7,124	(10,706)	10,810	(14,392)	20,239	36,925	(16,686) (B)
EBITDA <u>excl.</u> Stock G/(L) & Reversal of NRV/(NRV)	4,942	5,955	(1,013)	7,333	(2,391)	22,867	33,510	(10,643) (C)
Financial Charges	(1,078)	(844)	(234)	(797)	(281)	(3,511)	(3,285)	(226)
Financial costs from repurchase of debentures	-	-	-	-	-	(431)	-	(431) (D)
FX G/(L) & CCS	(233)	548	(781)	677	(910)	627	3,182	(2,555) (E)
(Tax Expense)/reversal of income tax	1,315	(1,008)	2,323	(1,711)	3,026	(1,983)	(5,529)	3,546
Net Profit / (Loss)	(4,812)	4,558	(9,370)	6,927	(11,739)	10,149	24,856	(14,707)
EPS (THB/Share)	(2.36)	2.23	(4.59)	3.73	(6.09)	4.97	12.18	(7.21)
Stock G/(L) & Reversal of NRV	(8,524)	1,169	(9,693)	3,477	(12,001)	(2,628)	3,415	(6,043)
Net Profit/ (Loss) <u>excl.</u> Stock G/(L) and Reversal of NRV/(NRV)	3,712	3,389	323	3,450	262	12,777	21,441	(8,664)
THB/US\$ - average	32.99	33.15	(0.16)	33.11	(0.12)	32.49	34.10	(1.61)
THB/US\$ - ending	32.61	32.58	0.03	32.85	(0.24)	32.61	32.85	(0.24)
Effective Tax Rate (%)	N/A	18%	N/A	20%	N/A	16%	18%	-2%

YoY analysis

(A) Increase overall product prices following crude oil price

(B) Mainly from stock loss 0.4 \$/bbl in 2018 compared with stock gain 0.9 \$/bbl in 2017

(C) Mainly due to soften Mkt GIM 6.9 \$/bbl in 2018 from 9.1 \$/bbl in 2017

(D) One-time expense on liability management and accounting loss from discounted bond buy back in 2018

(E) Mainly from realized on USD debt as THB slightly appreciated

2018 TOP Group Consolidated Cash Flow

(Unit: Million THB)

Operating Cash Flow		
	FY/18	FY/17
Operating Cash Flow	18,313	34,417
Net income & non-cash adj.	23,978	38,568
Change in working capital	(5,665)	(4,151)

(Unit: Million THB)

Investments		
	FY/18	FY/17
Investments	(25,846)	(30,092)
Dividend income	772	740
ST investments	(21,597)	(23,423)
Available for sale	2,732	(2,865)
CAPEX (PP&E) & other	(7,753) ¹⁾	8,348

1)TOP 6,976MB, TSV 292MB, TOPSPP112MB

Financing		
	FY/18	FY/17
Financing	25,566	(19,226)
Loans proceeding	95,705 ²⁾	3,681 ²⁾
Loans repayment	(55,706) ³⁾	(10,088) ³⁾
Interest	(3,428)	(3,364)
Dividend	(11,006)	(9,455)

2) TOP 18,990 TTC 51,634
TOPSPP 8,415 LABIX 5,373

3) TOP 39,067(loan18,990,bond 20,076)
LABIX 12,499

	Beginning	Change	Effect of FCD	Ending
cash	15,623	18,032 ↑	386	34,041
S/T investment	52,318	(20,903) ⁴⁾ ↓		73,221
Investment held as Available for sale	3,103	(2,742) ⁵⁾ ↓		361
	71,045			107,623 ⁶⁾

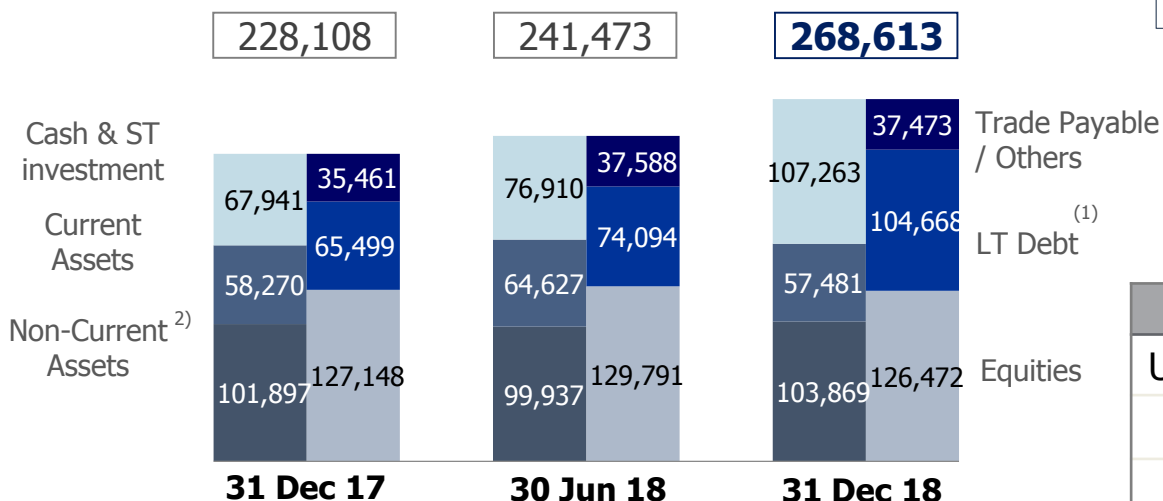
non-cash transactions:
4) adj. FX loss from fixed deposit 524MB, other adjustment 171MB
5) MTM EPIF&Private fund 5MB, AP(private fund)
as at 31Dec17 = 5MB

6) FCD = 56,144 MB (1,744 MUSD)

2018 TOP Group Strong Financial Position & Financial Ratios

Statements of Financial Position

(Unit: million THB)



ROE	20.8 %	19.0 %	8.0 % *
ROIC	20.2 %	20.6 %	9.2 % *

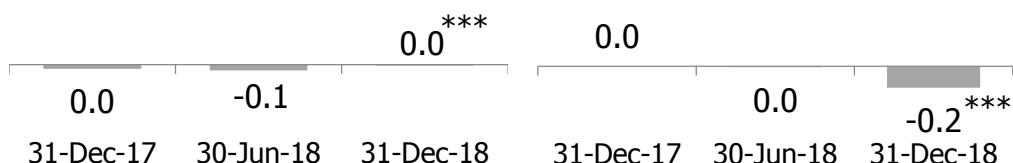
(1) Including current portion of Long-Term Debt

(2) Including investment held as available for sale 31 Dec 17 = 2,859 MB,
30 Jun 18 = 2,170 MB, 31 Dec 18 = 361 MB

Financial Ratios

Net Debt / adj. EBITDA**

Net Debt / Equity



* Based on actual performance in the past 12 months

** Annualized EBITDA (excl stock gain/loss & Reversal of NRV/(NRV))

*** As of 31 Dec 18 Net Cash 202 MB or 6 M\$

Consolidated Long-Term Debt as at 31 Dec 18

Total IBD

107,059 million THB
(US\$ 3,283 million
equivalence)

Net Cash

202 million THB
(US\$ 6 million
equivalence)

As at 28 Dec 18 (32.61 THB/US\$)

	Value (Million)	Portion
US\$ Bond & US\$ Loan ⁽³⁾	USD 1,989	62%
THB Bond	THB 23,500	22%
THB Loan	THB 16,284	16%

(3) Including VND Loan equivalent to USD

Interest Rate	Portion
Float	10%
Fixed	90%
TOP avg.debt life	13.89 Yrs

Cost of Debt	
TOP Group (Net***)	2.51% ⁽⁴⁾
TOP Group (Gross)	4.81%

(4) Due to yield enhancement

MOODY'S

Baa1
Stable Outlook

STANDARD
& POOR'S

BBB
Stable Outlook





FitchRatings

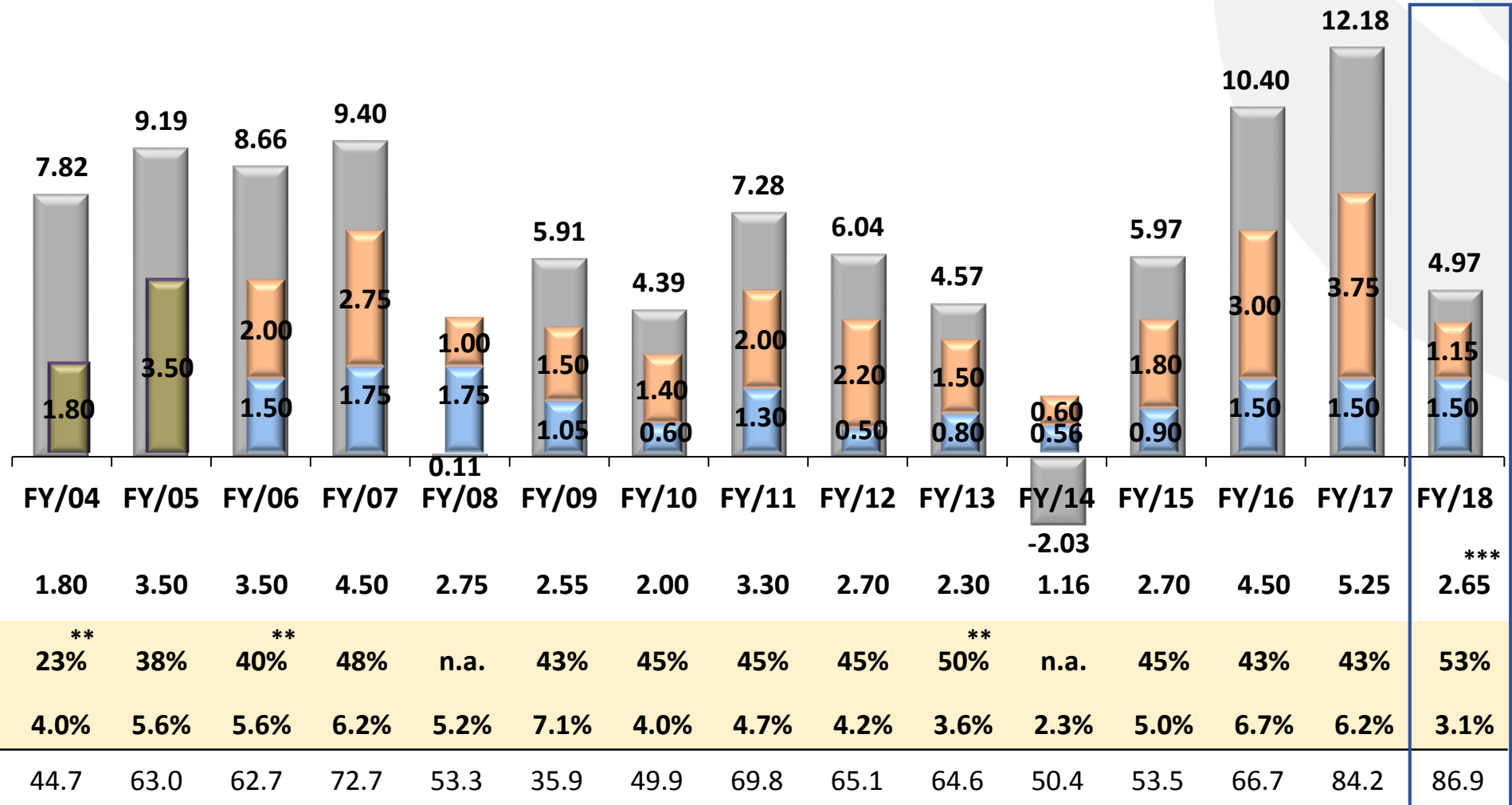
AA- (tha)
Stable Outlook

2018 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

 EPS^R
 2H dividend
 1H dividend
  Year Dividend



^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% *** Subject to AGM Approval on Apr 10,2019



1H/19 MARKET OUTLOOK

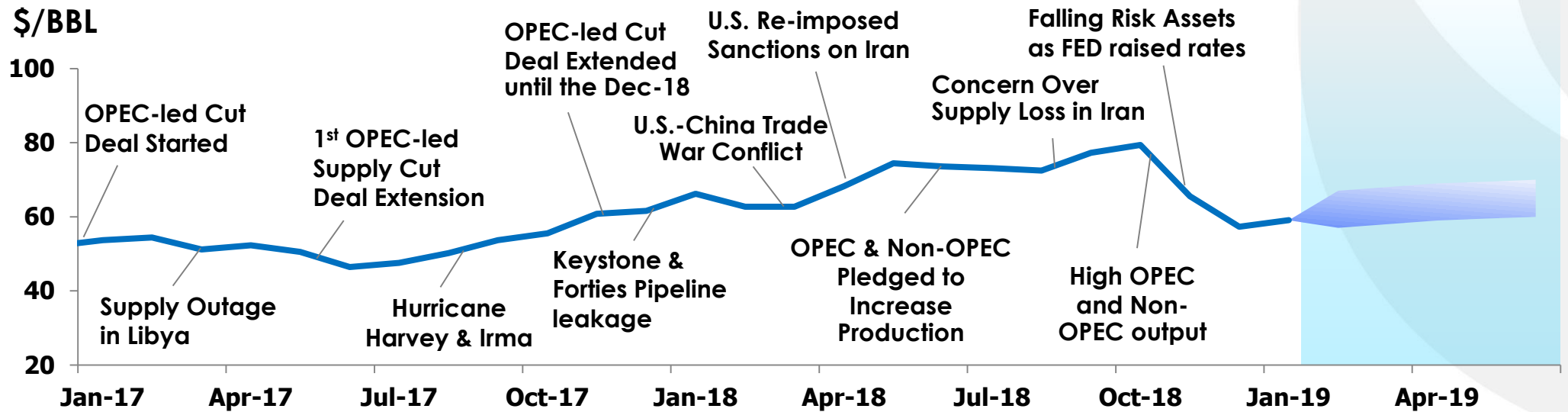
- *Crude Oil*
- *Petroleum Products*
- *Aromatics*
- *Base Oil & Bitumen*
- *Linear Alkyl Benzene (LAB)*

CRUDE OIL



Recovering Oil Price on Tighter than Expected Supply

Dubai Price Movement



*Q1TD'19 (as of 15 Feb): \$60.9/BBL

Key Highlights in 1H-2019

1

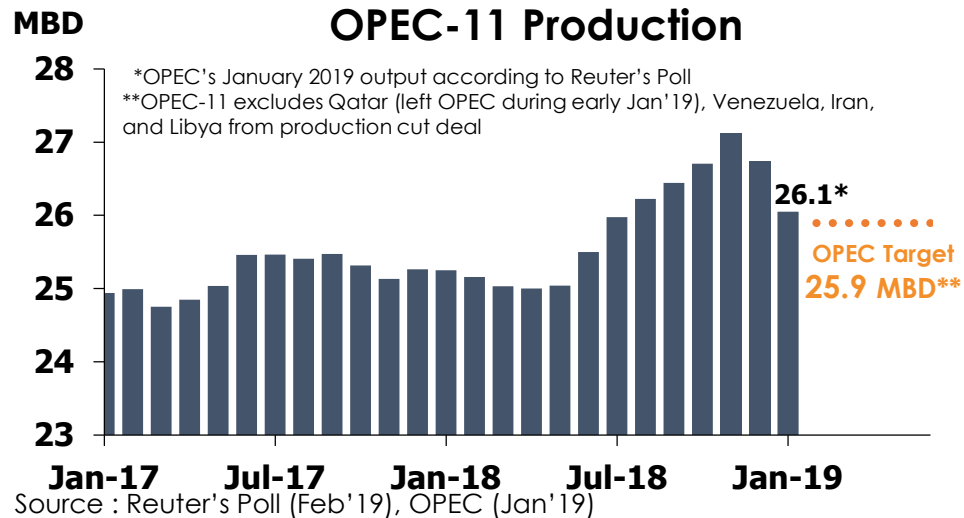
Tightening Supply on OPEC Production Cut Deal and Tumbling Supplies in Iran and Venezuela

2

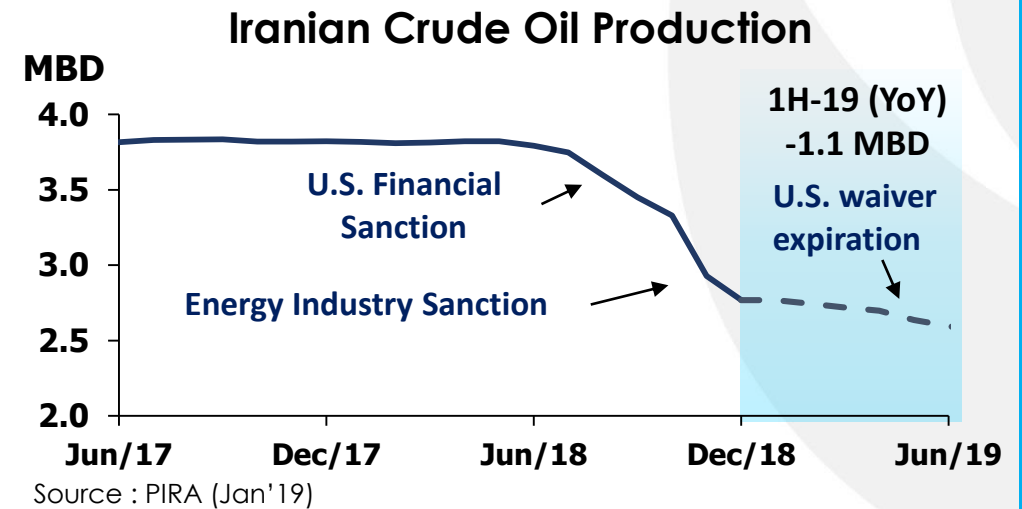
Deficit Market in 1H-19 on Limited Supplies and Strong Demand

1 Tightening Supply on OPEC Production Cut Deal and Tumbling Supplies in Iran and Venezuela

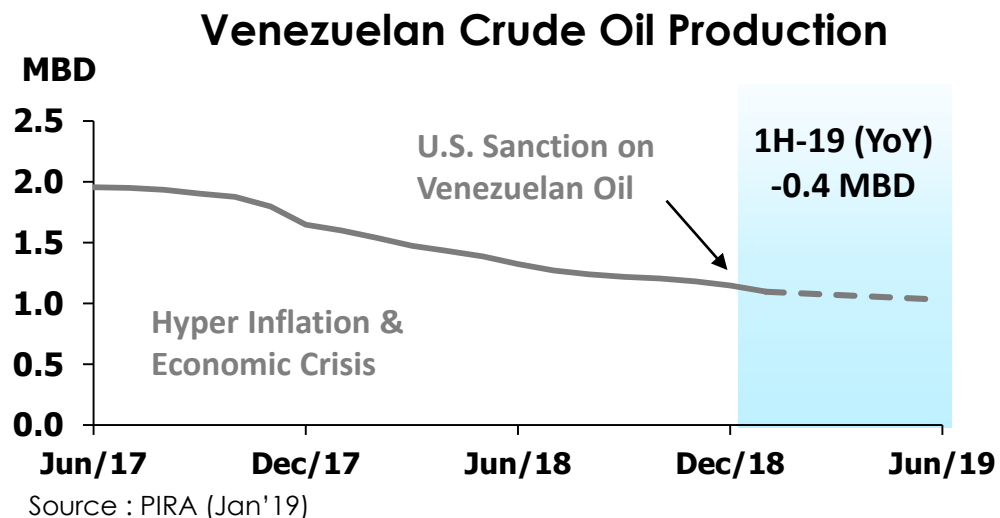
A OPEC Production to Continue Declining



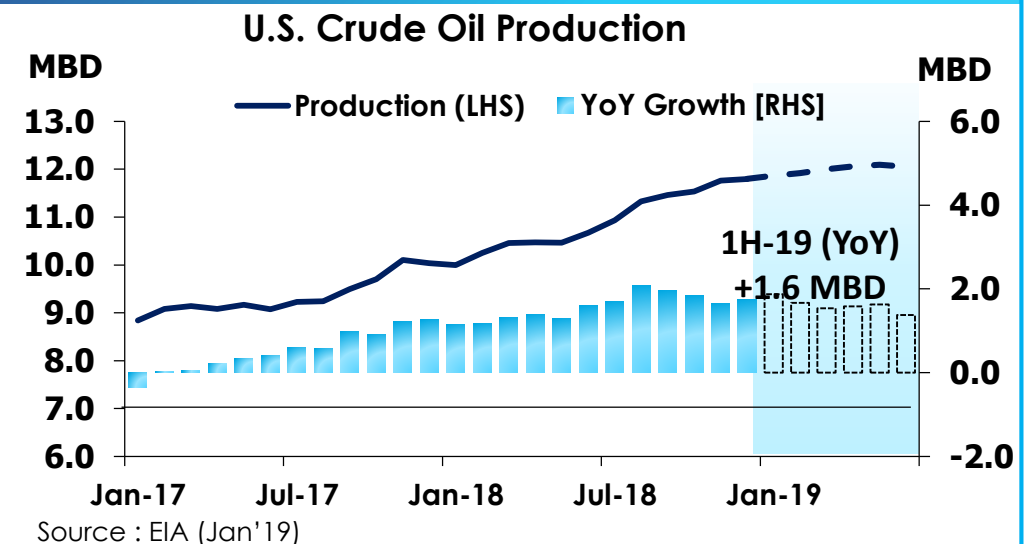
B Limited Iranian Outflow on Sanction Uncertainty



C Falling Venezuelan Output on Political Fallout

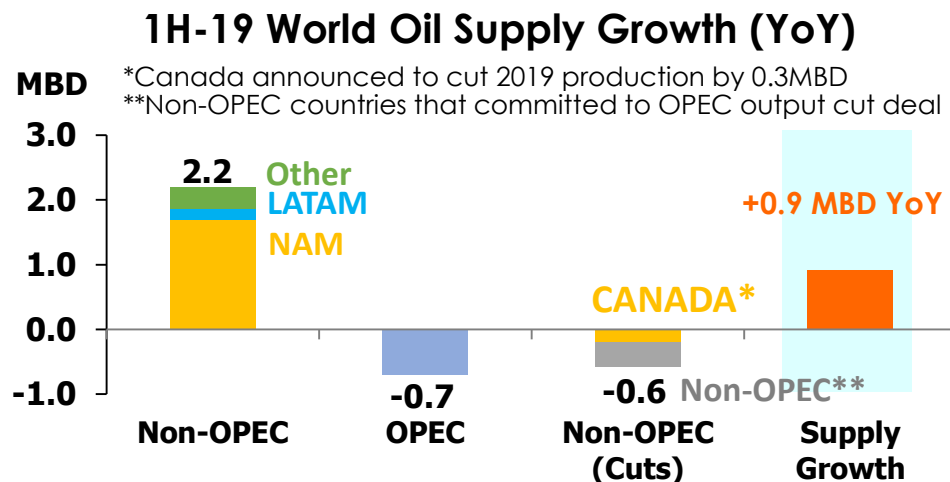


D U.S. Output Continues to Pressure Oil Market

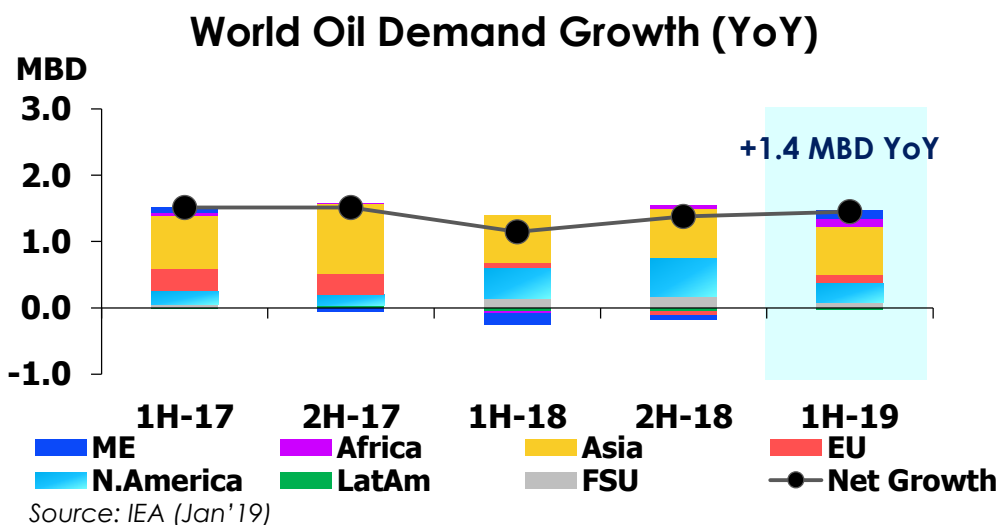


2 Deficit Market in 1H-19 on Limited Supplies and Strong Demand

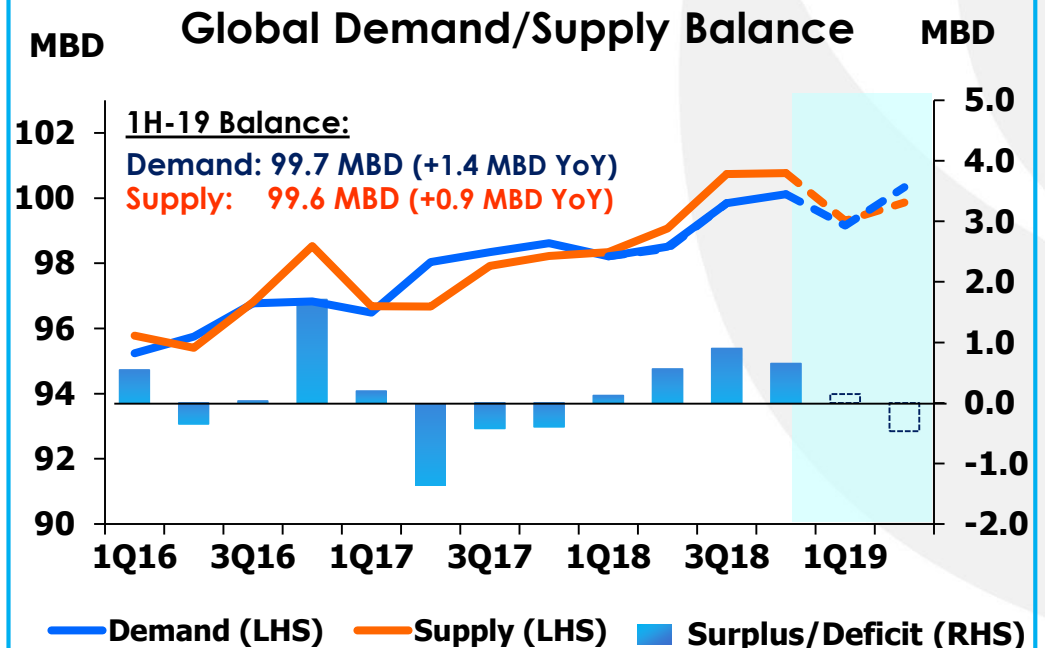
A Supply Growth Dragged Down by Output Cut



B Still Robust Global Crude Oil Demand



C Tighter Global Crude Oil Market in 2019



- ▶ Tight crude oil market on OPEC and Non-OPEC production cut deal
- ▶ Supply loss in Iran and Venezuela steepens market deficit
- ▶ Demand remains stable but economic risks loom

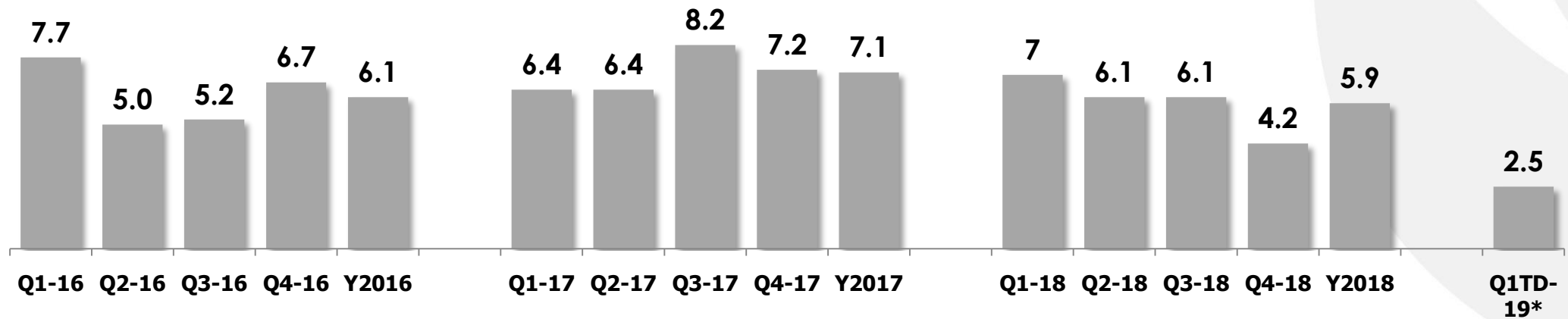
Sources: IEA (Jan'19), PIRA (Jan'19) and TOP's Estimate

PETROLEUM PRODUCTS



Slightly Softer Refining Margins from Weak Gasoline Market and Still Supported by Recovering Middle Distillate Cracks Q-o-Q

Singapore Cracking GRM (\$/BBL)



(\$/BBL)	2017	Q1-18	Q2-18	Q3-18	Q4-18	2018	Q1TD-19*
ULG95-DB	14.9	13.6	12.2	11.5	4.9	10.6	1.4
JET-DB	12.1	16.0	15.3	14.5	15.7	15.4	12.9
GO-DB	12.5	14.7	14.6	14.3	15.0	14.7	12.0
HSFO-DB	(2.3)	(4.9)	(4.5)	(2.5)	1.3	(2.6)	0.6

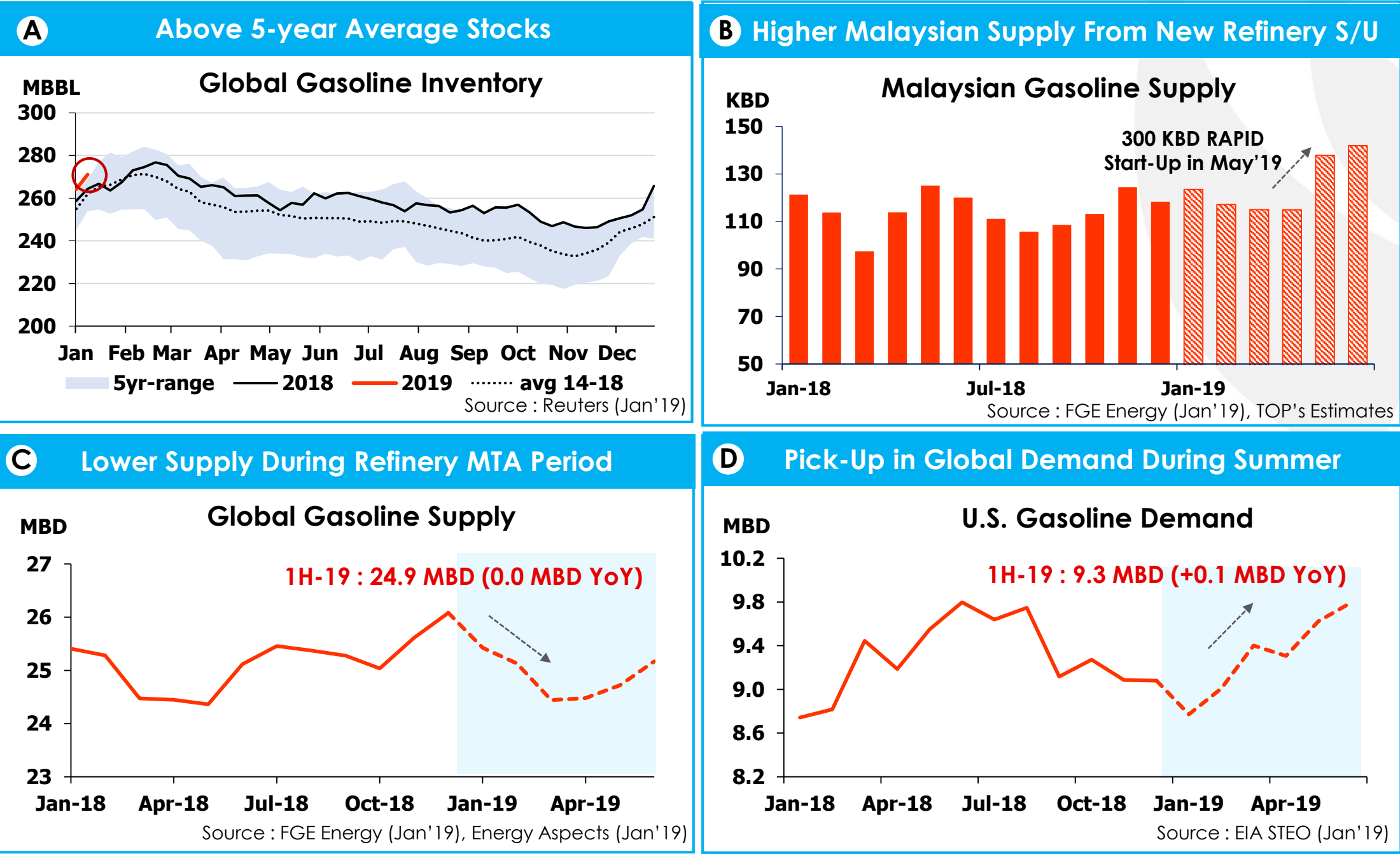
Remarks: *Q1TD-19 as of 15 Feb 19

Key Highlights in 1H-2019

- 1 Soft Gasoline Cracks Pressured by Abundant Supply Until the Start of Maintenance Season and Summer Season
- 2 Recovering Middle Distillate Cracks Q-o-Q from Firm Demand and Tighter Supply
- 3 Demand Growth Outpacing Supply Addition

1

Soft Gasoline Cracks Pressured by Abundant Supply Until the Start of Maintenance Season and Summer Season

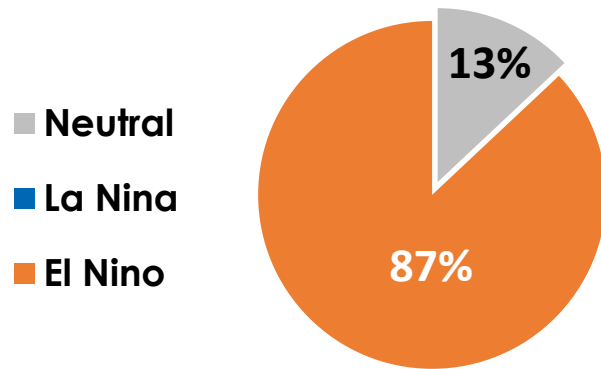


2

Recovering Middle Distillate Cracks Q-o-Q from Firm Demand and Tighter Supply

A Warmer-than-normal Winter Pressuring Demand

Percent of El Nino Development

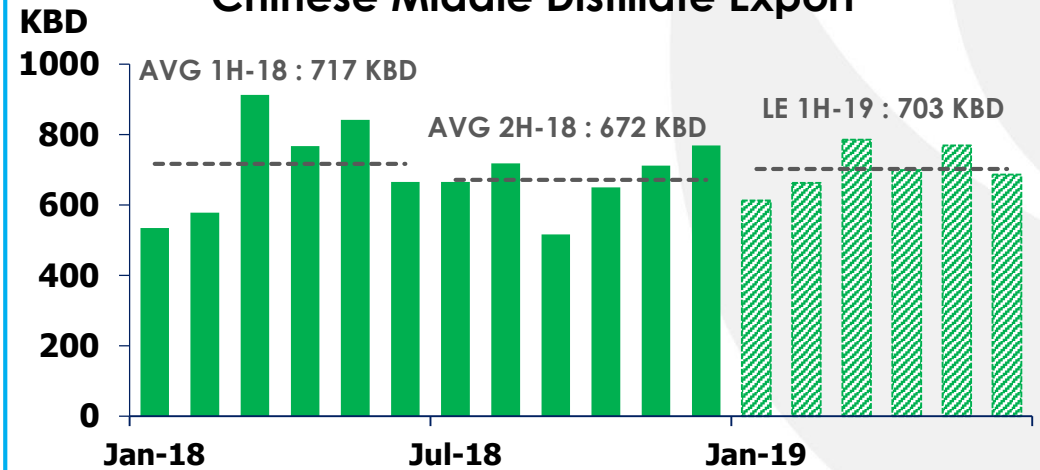


Jan'19 – Mar'19

Sources : National Oceanic and Atmospheric Administration (Jan'19)

B High Chinese Exports Amid Higher Export Quota

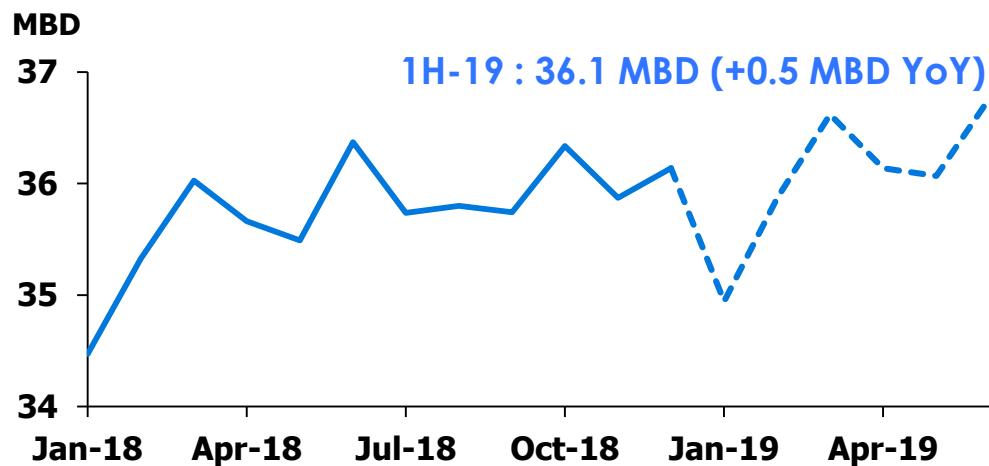
Chinese Middle Distillate Export



Source : FGE Energy (Jan'19)

C Firm Demand From Growing Economy

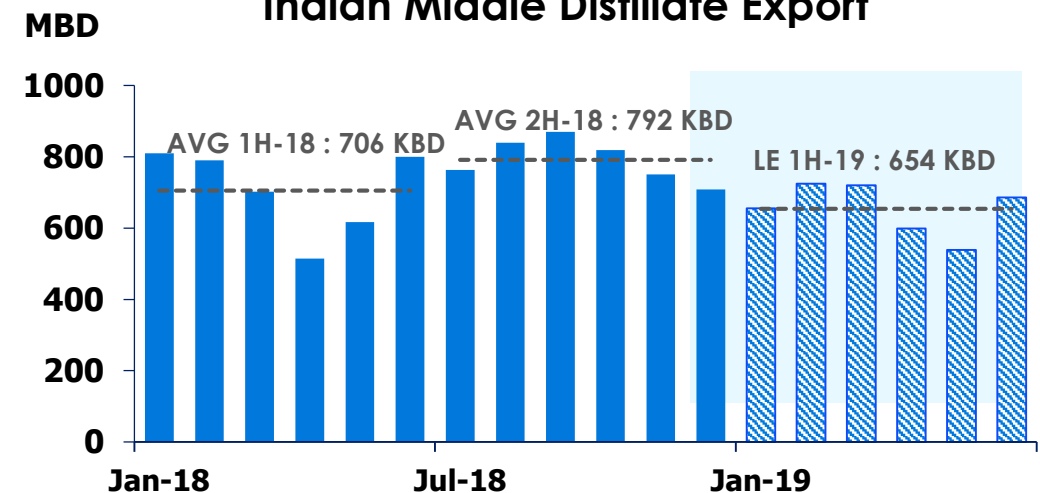
Global Middle Distillate Demand



Source : FGE Energy (Jan'19), Energy Aspects (Jan'19)

D Lower Indian Exports Due to Heavy Refinery MTA

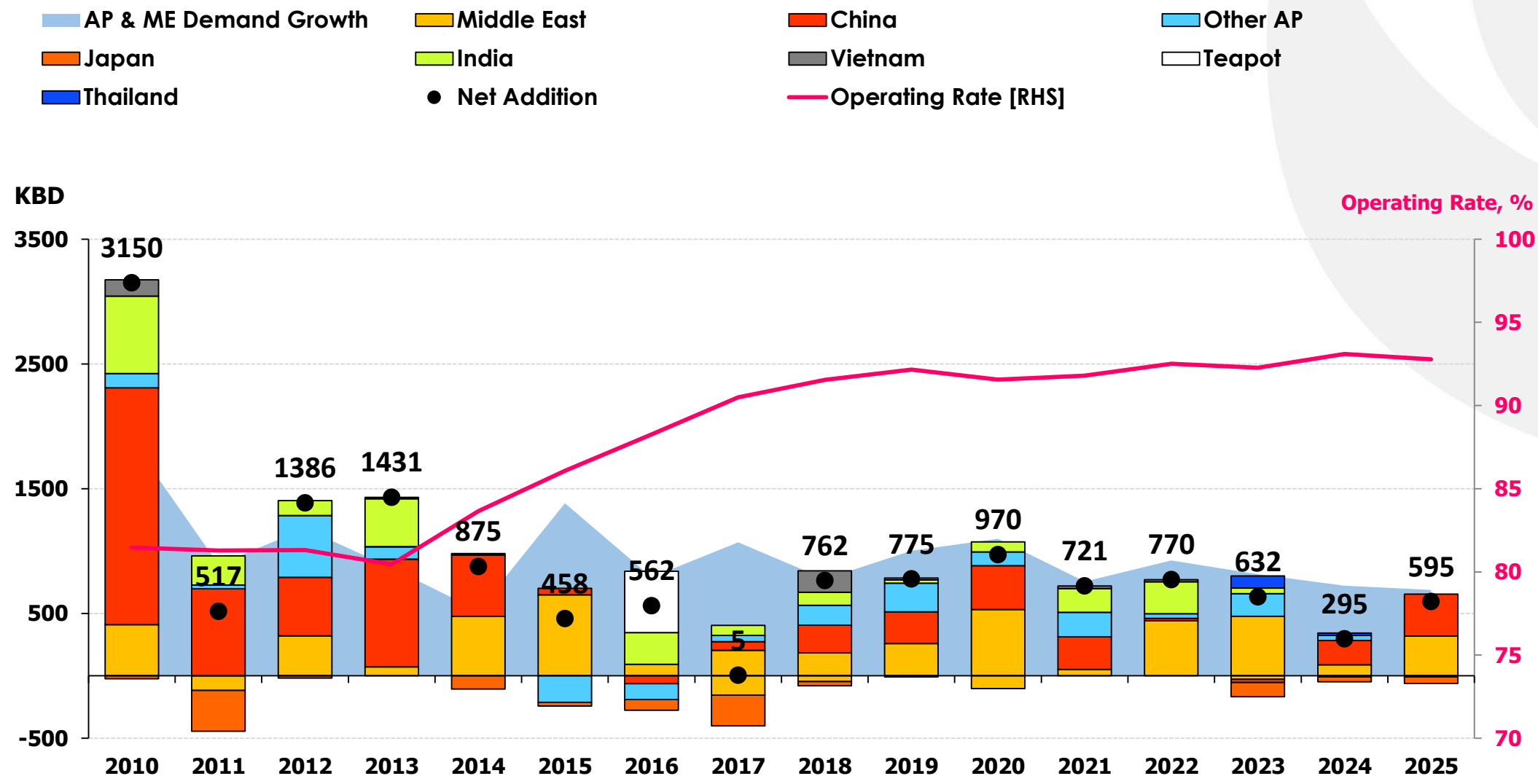
Indian Middle Distillate Export



Source : FGE Energy (Jan'18)

3 Demand Growth Outpacing Supply Addition

Asia Pacific and Middle East Effective CDU Addition VS Additional Demand



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

Sources : FACTs Semi Annual Reports, Fall 2018, Reuters (Oct'18) and TOP's estimate

Thailand Oil Demand Growth



Thailand Oil Demand Growth

Year on Year	Y2016 ^(B)	Y2017 ^(B)	Y2018 ^(B) VS 2017	Y2019F VS 2018
Mogas ^(A)	+9.8%	+3.7%	+3.3%	Steady demand growth due to lower oil price
Jet/Kero	+6.8%	+4.4%	+5.4%	Slightly softer demand growth due to limited airport capacity
Diesel ^(A)	+3.1%	+2.9%	+1.5%	Steady demand growth following economic expansion
Total	+5.4%	+3.4%	+2.6%	
GDP	+3.2%	+4.0%	+4.1% ^(C)	+4.0% ^(D)

Remarks: (A) Mogas and Diesel includes Ethanol and Biodiesel, respectively
(B) DOEB Statistics
(C) NESDB (Feb'19)
(D) NESDB's Estimate (Feb'19)

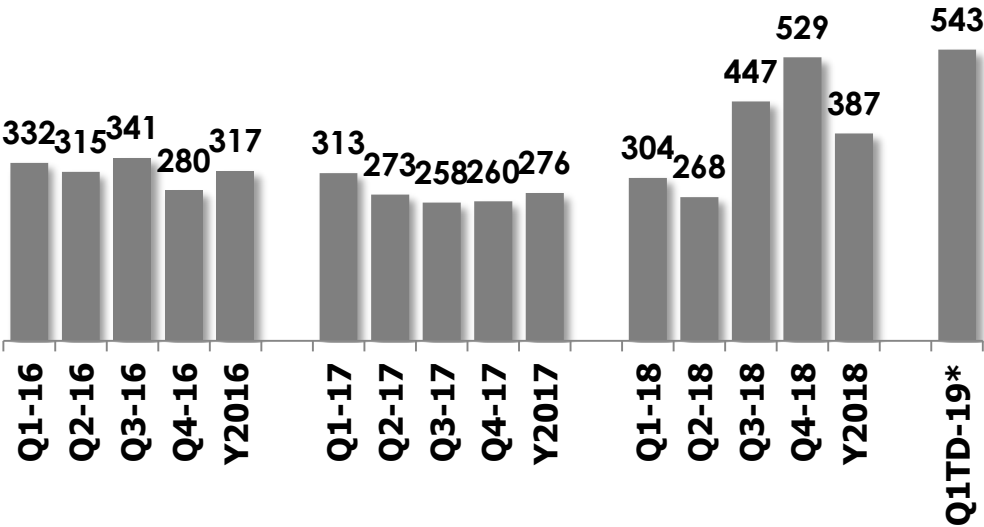
AROMATICS



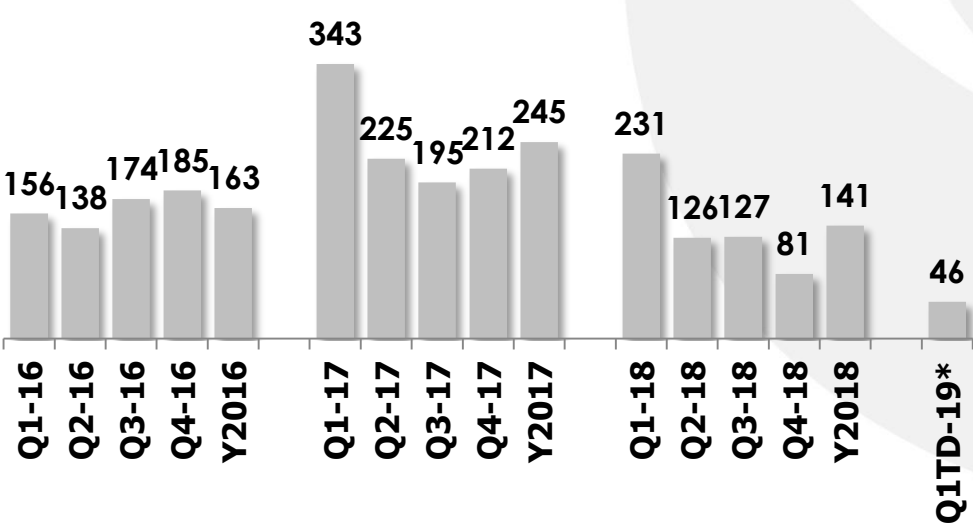
Firm PX Market on Growing Demand against Softer BZ Market on Still-High Stock and Surplus Supply

Aromatics Market

PX CFR Taiwan-ULG95 (\$/TON)



BZ FOB Korea-ULG95 (\$/TON)



(\$/TON)	2017	Q1-18	Q2-18	Q3-18	Q4-18	Q1TD-19*
PX-ULG95	276	304	268	447	529	543
BZ-ULG95	245	231	126	127	81	46

Key Highlights in 1H-2019

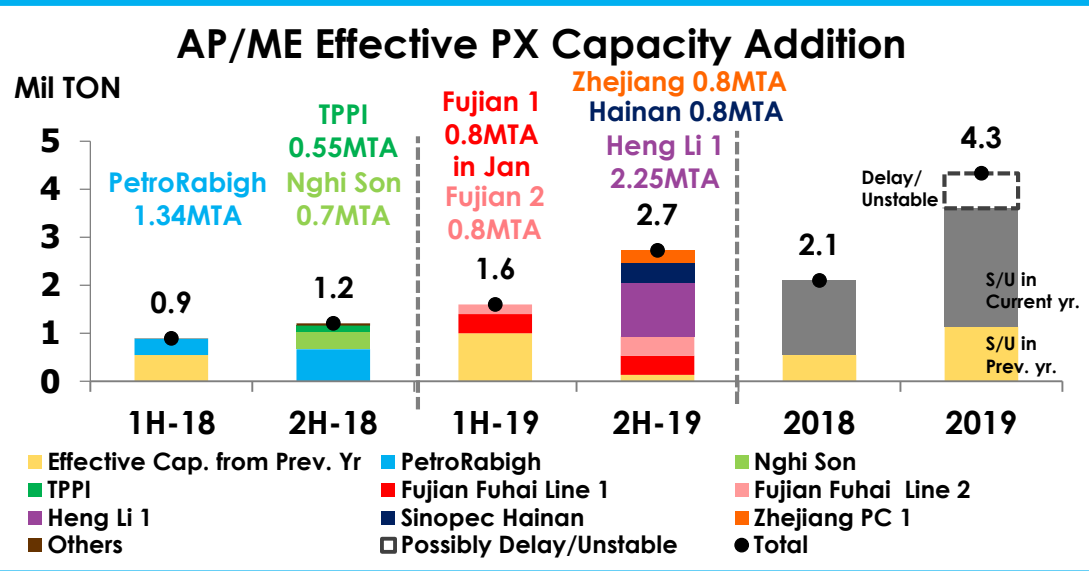
- 1 Firm PX market on Growing Demand Growth, but Pressured from Restart of Chinese Plant
- 2 Softer BZ Market due to High Stock in China amid Stable Capacity Addition

Remarks: *Q1TD-19 as of 15 Feb 2019

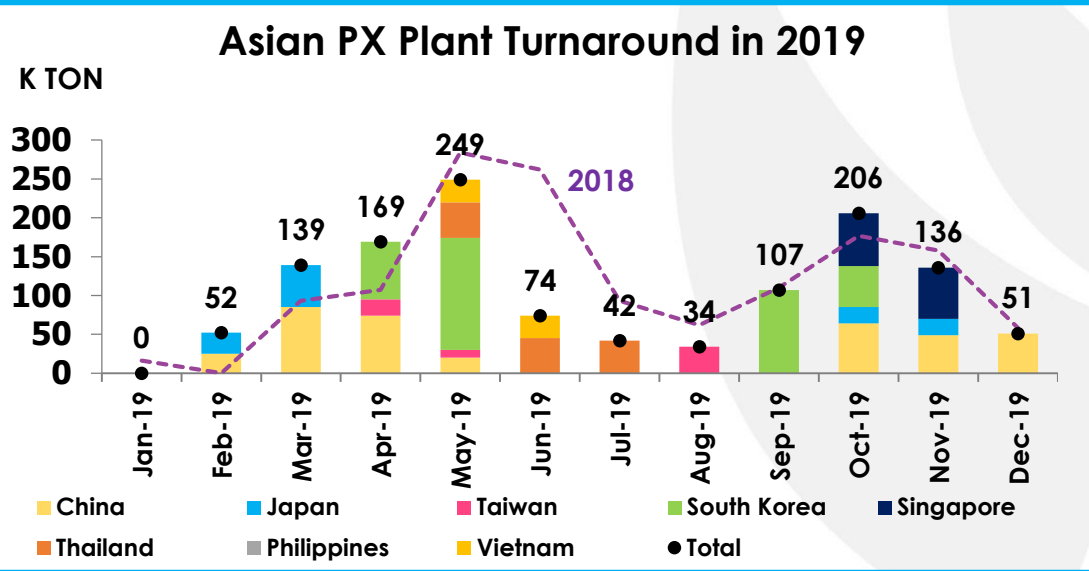
1

Firm PX market on Growing Demand Growth, but Pressured from Restart of Chinese Plant

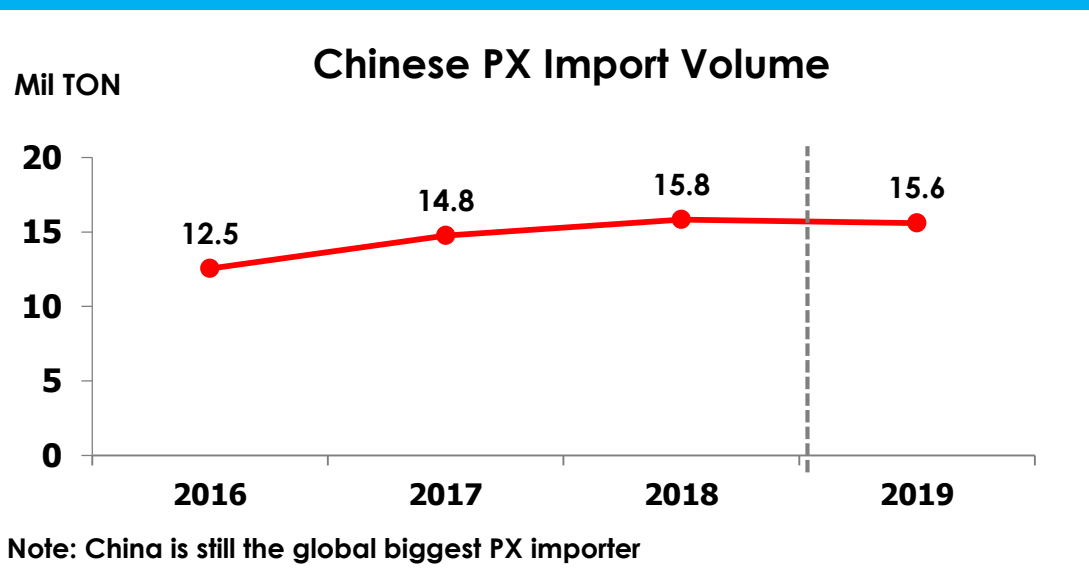
A Roll-Over Capacity to Pressure PX Market in 1H-19



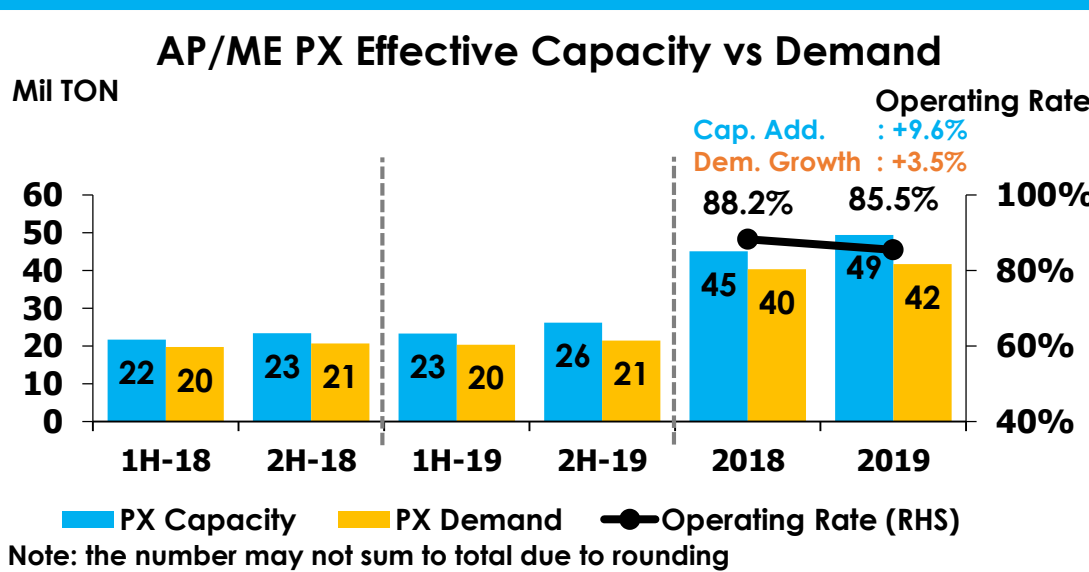
B Tighten Supply in 1H from Peak Asian M/T in Mar-May



C Chinese Import to Support Asian Market



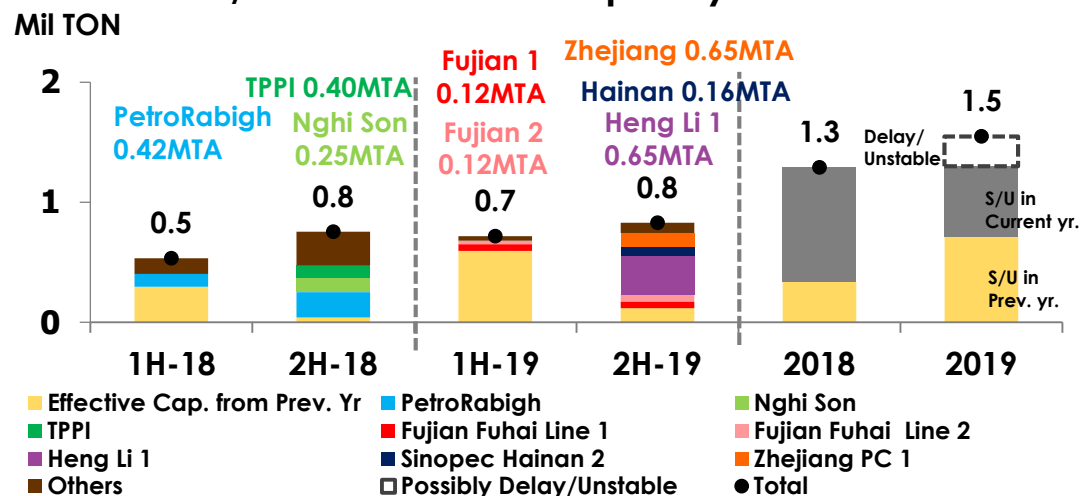
D Lower Opt. Rate due to High Supply Rise in 2H-19



Softer BZ Market due to High Stock in China amid Stable Capacity Addition

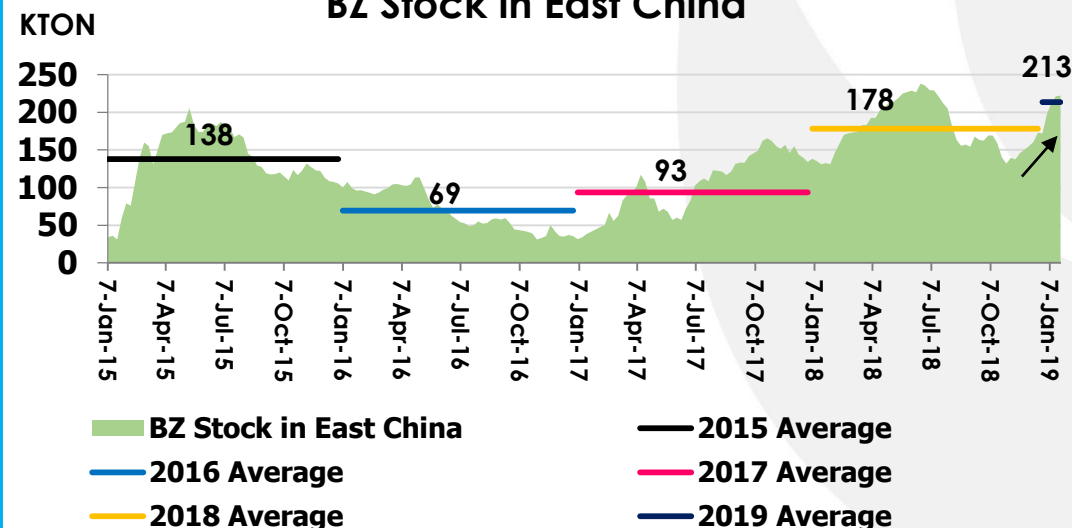
A Stable Capacity Addition in 1H

AP/ME Effective BZ Capacity Addition



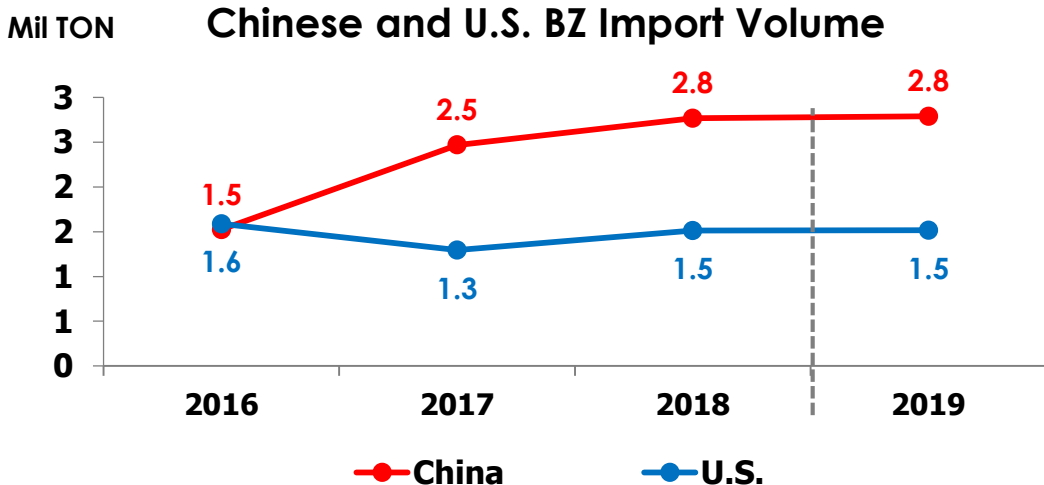
B Accumulated Stock to Weigh Down Chinese Import Vol. in 1H

BZ Stock in East China



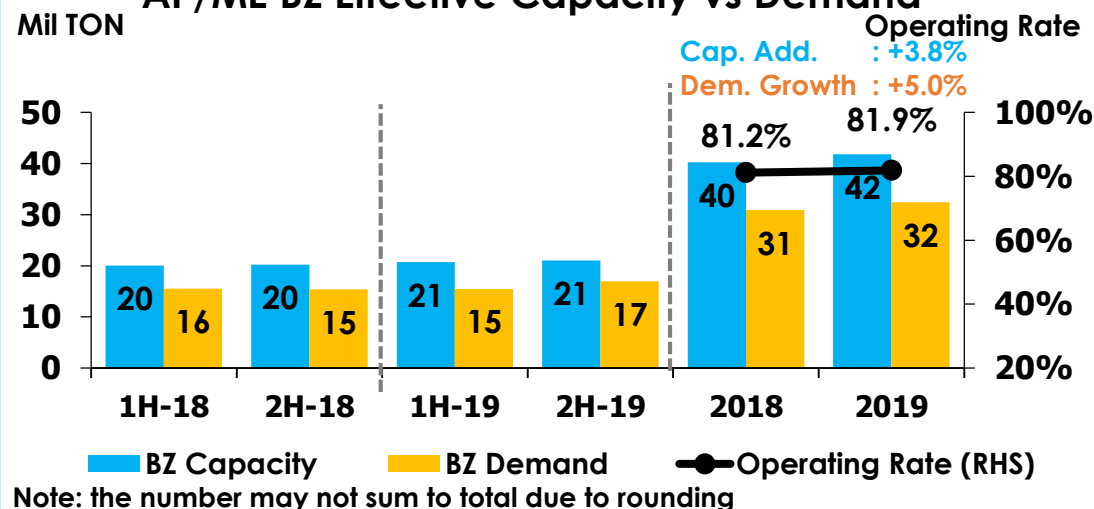
C Stable CN and U.S. Import due to Expected Rising Vol. in 2H

Chinese and U.S. BZ Import Volume



D Higher Opt. Rate from Higher Demand Growth Rate than Supply

AP/ME BZ Effective Capacity vs Demand

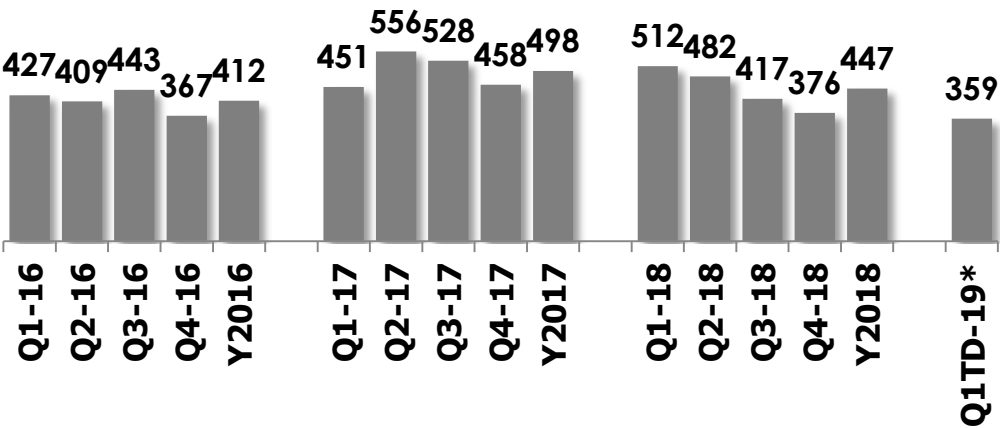


BASE OIL & BITUMEN



Soft Base Oil Market on Higher Capacity Addition

500SN – HSFO (\$/TON)



(\$/TON)	2017	Q1-18	Q2-18	Q3-18	Q4-18	2018	Q1TD-19*
500SN-HSFO	498	512	482	417	376	447	359

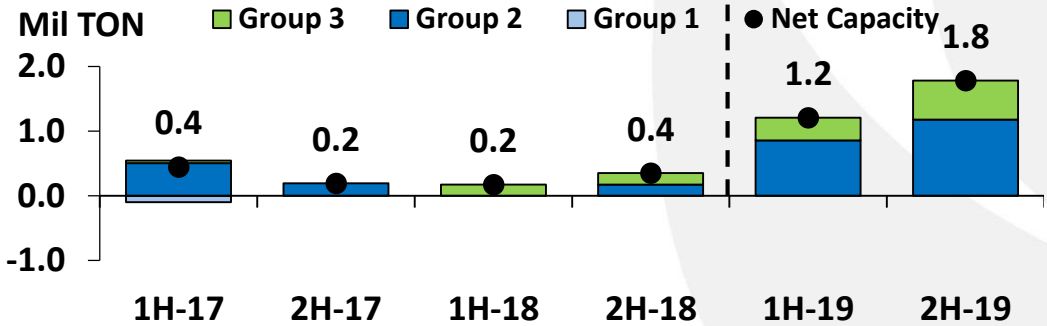
Remarks: *Q1TD-19 as of 15 Feb 19

Key Highlights in 1H-2019

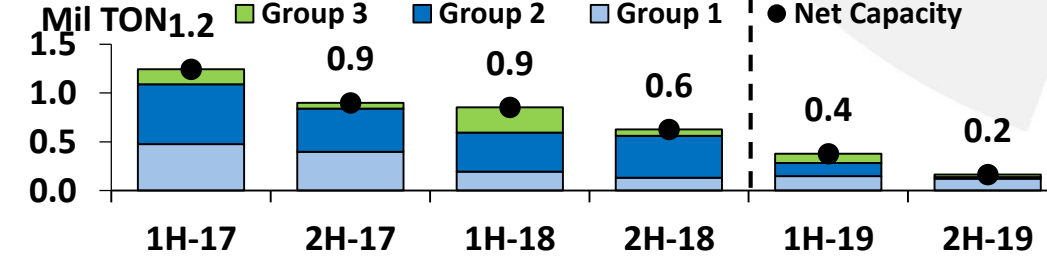
- 1 New Base Oil Gr.2/3 Plants Startup Causing Higher Supply Availability
- 2 Lower Plant Maintenance
- 3 Firm Demand in 1H especially in Summer Season

Sources: Argus (Feb'19), Petrosil (Jan'19) and TOP's Estimate

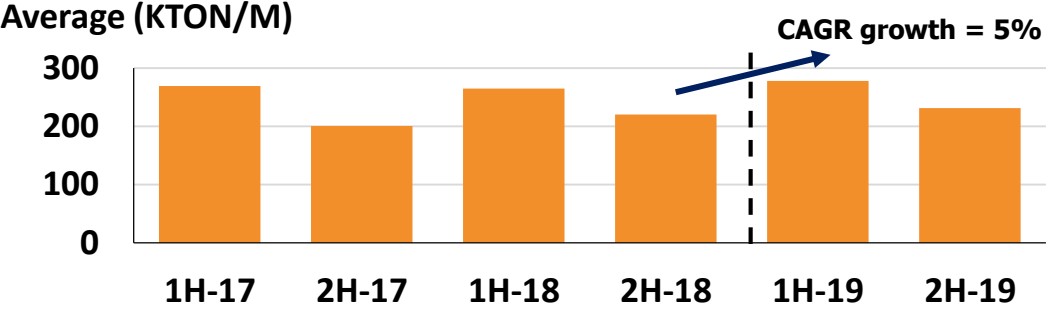
1 AP Base Oil Effective Capacity Addition



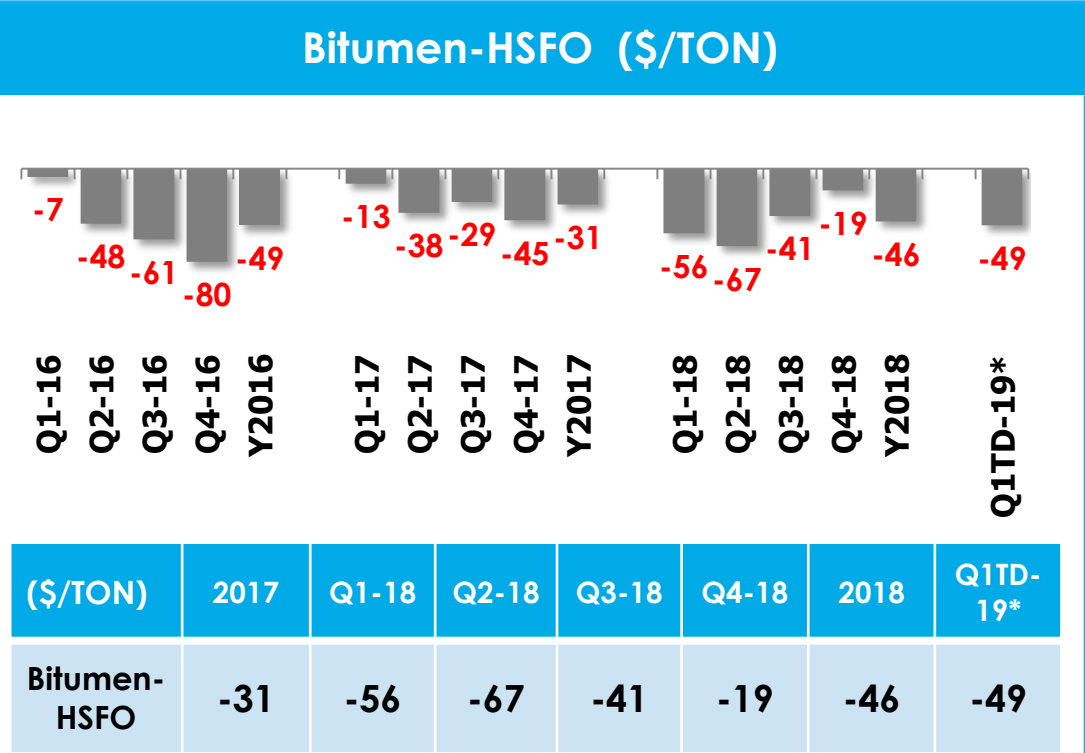
2 AP Plant Maintenance



3 China Import Base oil



Stable Bitumen Market on Firm Demand




Remarks: *Q1TD-19 as of 15 Feb 19


Key Highlights in 1H-2019

- 1 Firm Asian Bitumen Demand for Road System
- 2 Higher Thai Government Budget to Support Demand Growth


1 Firm Asian Bitumen Demand on Continuous Projects



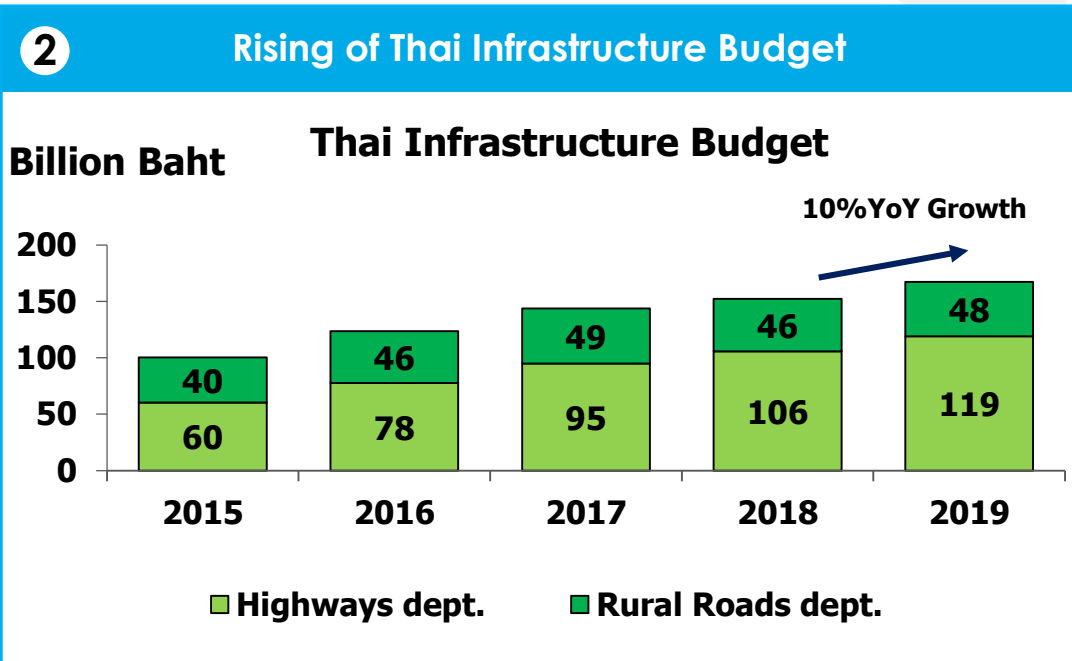
China has set up \$40 billion Silk Road Fund (One Belt, One Road) to roll out the initiative



India increases Highways budget by 6%, for 2019-2020



Indonesia's infrastructure budget rises by 26% for 2019 for building 667 kilometers of new roads, 905 kilometers of toll roads



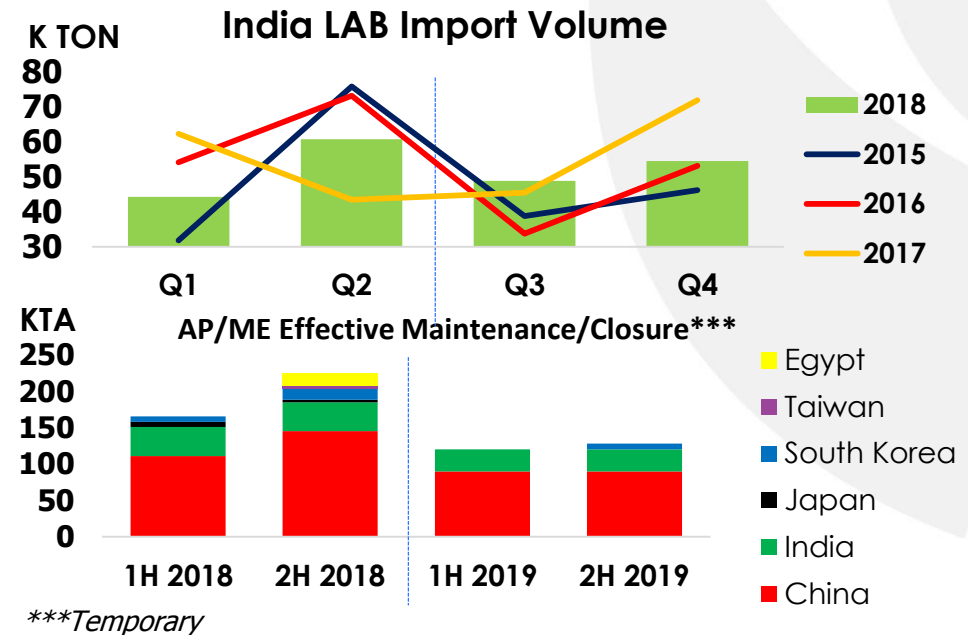
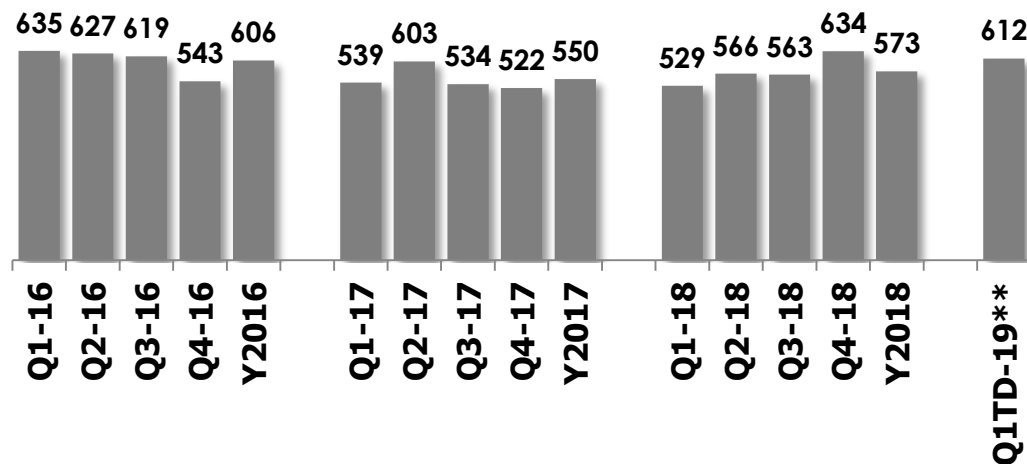
Linear Alkyl Benzene (LAB)



Stable-to-Firm Demand in 1H-2019 due to Peak Seasonal Demand in Summer, but Pressured by Lower Maintenance

LAB Market

LAB Spread* (\$/TON)



(\$/TON)	2017	Q1-18	Q2-18	Q3-18	Q4-18	2018	Q1TD-19*
LAB Spread	550	529	566	563	634	573	612

Remarks: *Estimated indicator

**Q1TD-19 as of 15 Feb 19

Key Highlights in 1H-2019

- 1 Peak demand in Q2 as summer season boosts detergent demand
- 2 Lower AP/ME LAB plants maintenance

CONCLUSION



1H-2019 Market Outlook Conclusion

(vs. 2H-2018)



Crude Oil

Recovering Oil Price on Tighter than Expected Supply



Refinery

Slightly Softer Refining Margins from Weak Gasoline Market and Still Supported by Recovering Middle Distillate Cracks Q-o-Q



Aromatics

Firm PX Market on Growing Demand against Softer BZ Market on Still-High Stock and Surplus Supply



Lube Base

**Soft Base Oil Market on Higher Capacity Addition
Stable Bitumen Market on Firm Demand**



LAB

Stable-to-Firm LAB Market Supported by Peak Seasonal Demand in Summer, but still Pressured by Lower Maintenance Level

Thank You

Any queries, please contact:



at email: ir@thaioilgroup.com

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

Fax: 662-797-2976



APPENDIX

- Strategic Investment Plan
- Optimized & Flexible Operations...Superior Performance
- CDU Addition VS Additional Demand – AP & ME
- World GRM / Inventories
- Thailand petroleum demand by products

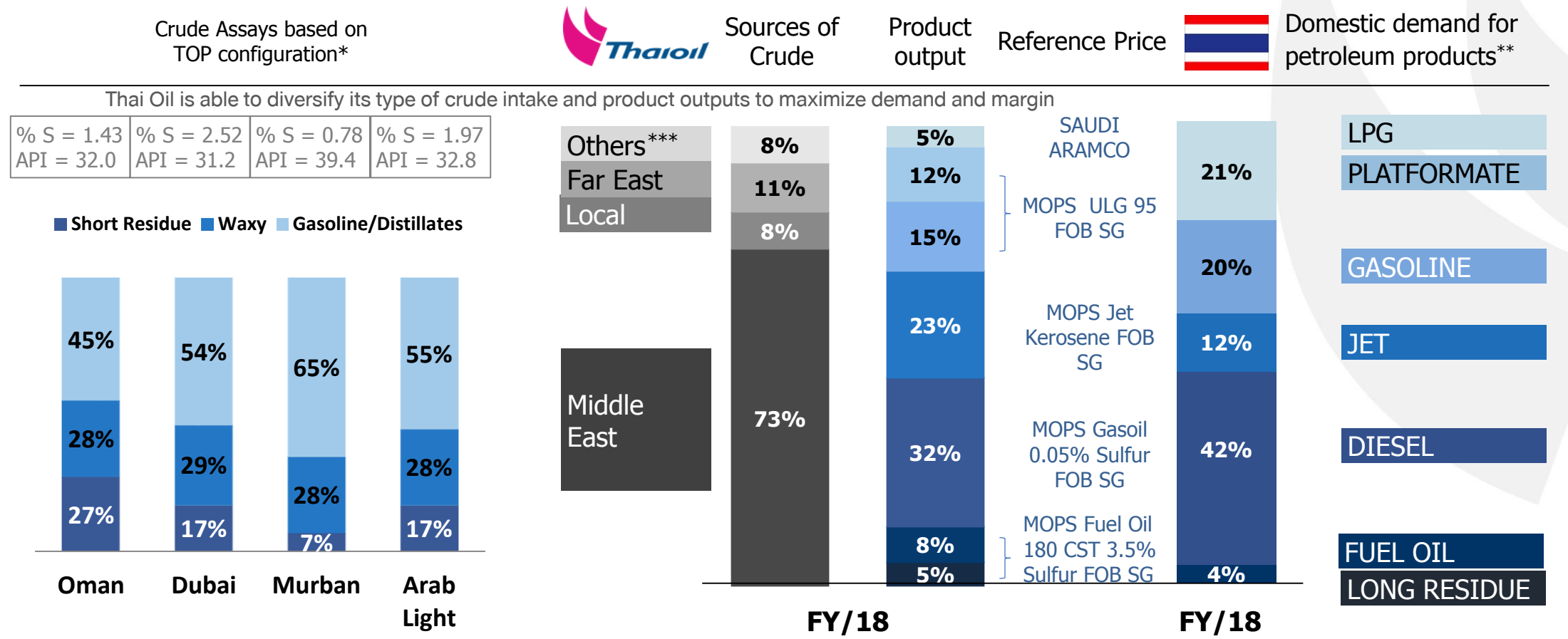
Strategic Investment Plan Approved by Board of Directors

CAPEX Plan (Unit US\$ million)

Project	Planned capital investment				
	2018	2019	2020	2021	2022
Reliability, Efficiency and Flexibility Improvement	37	60	17	2	
Infrastructure Improvement					
- Lorry Expansion	1				
- Jetty 7&8 / Improvement	29	83	5		
- Office Relocation & New Crude Tank	61	35	16		
- Site office preparation for fire water & fire water improvement	8	21	12		
Other Investments (i.e. solvent distribution in North Vietnam, benzene derivatives-LAB license fee)	20	38	43	9	
Total Ongoing CAPEX	156	237	93		
CFP project	79	1,295	1,811	883	651
Total CAPEX (including CFP)	235	1,532	1,904	894	651

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

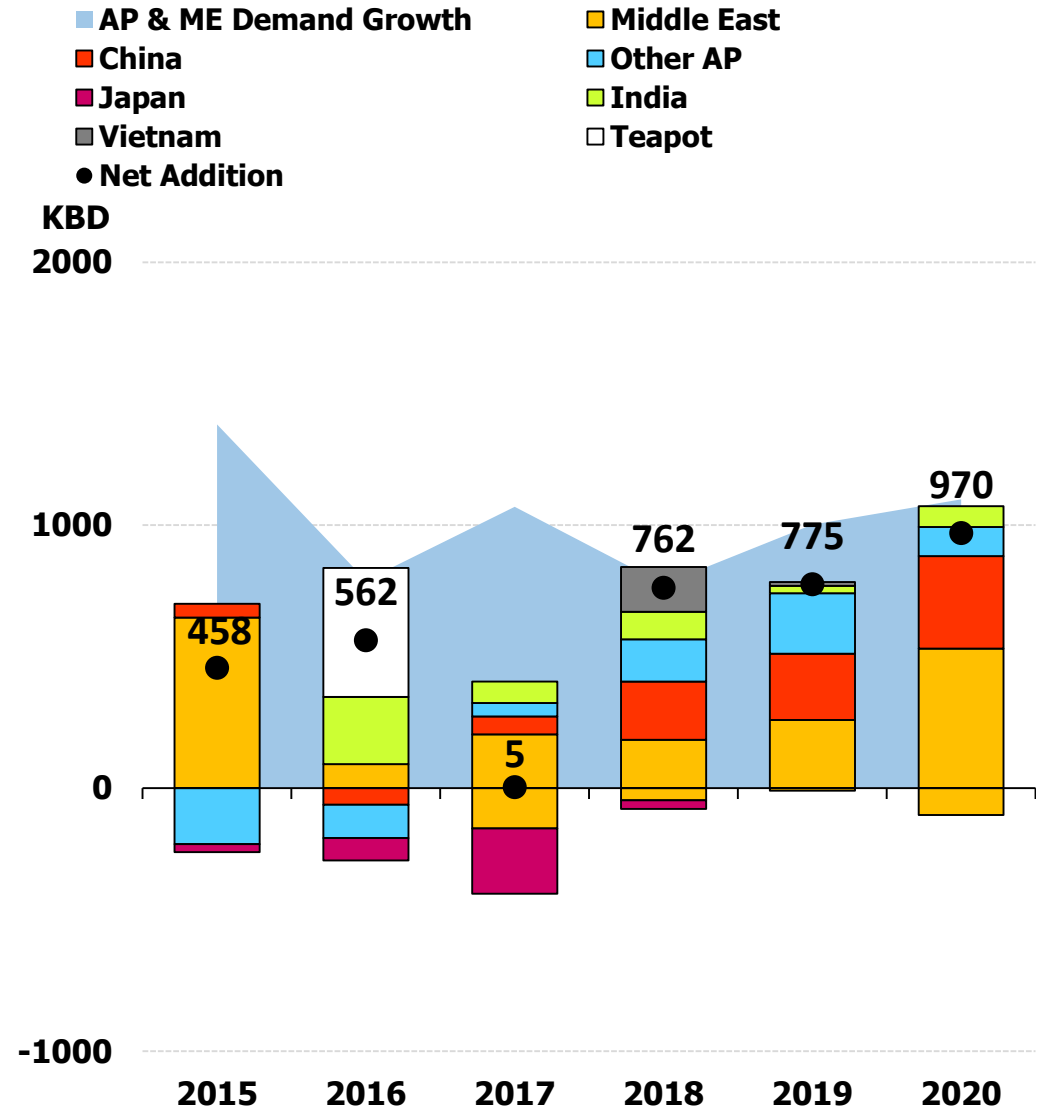
Optimized & Flexible Operations...Superior Performance



- 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

*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

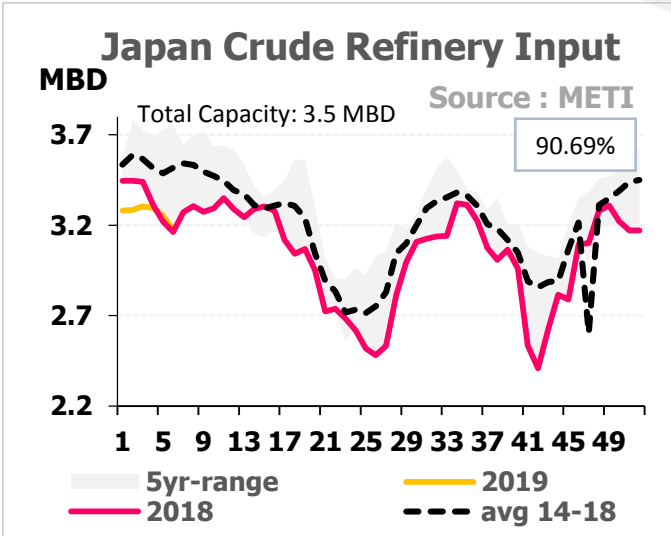
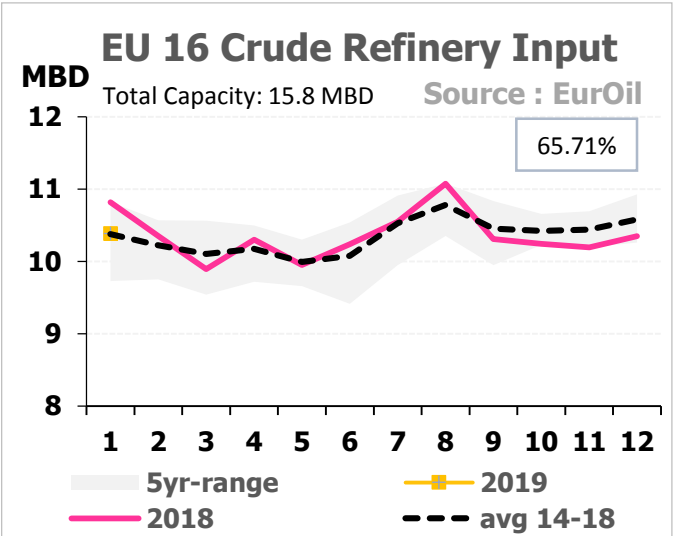
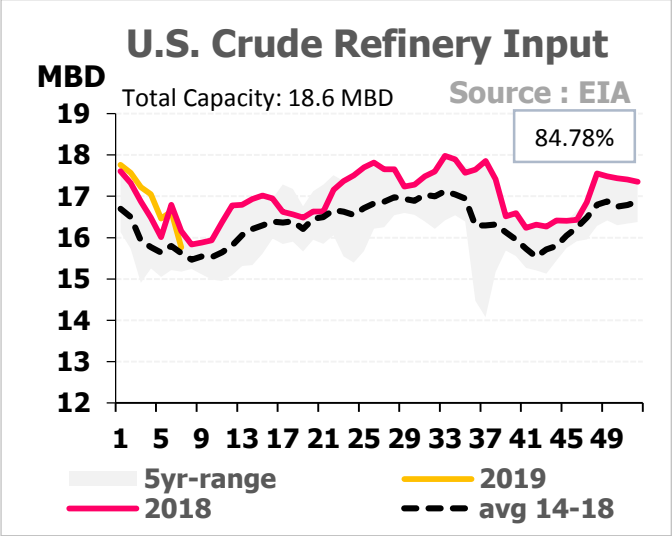
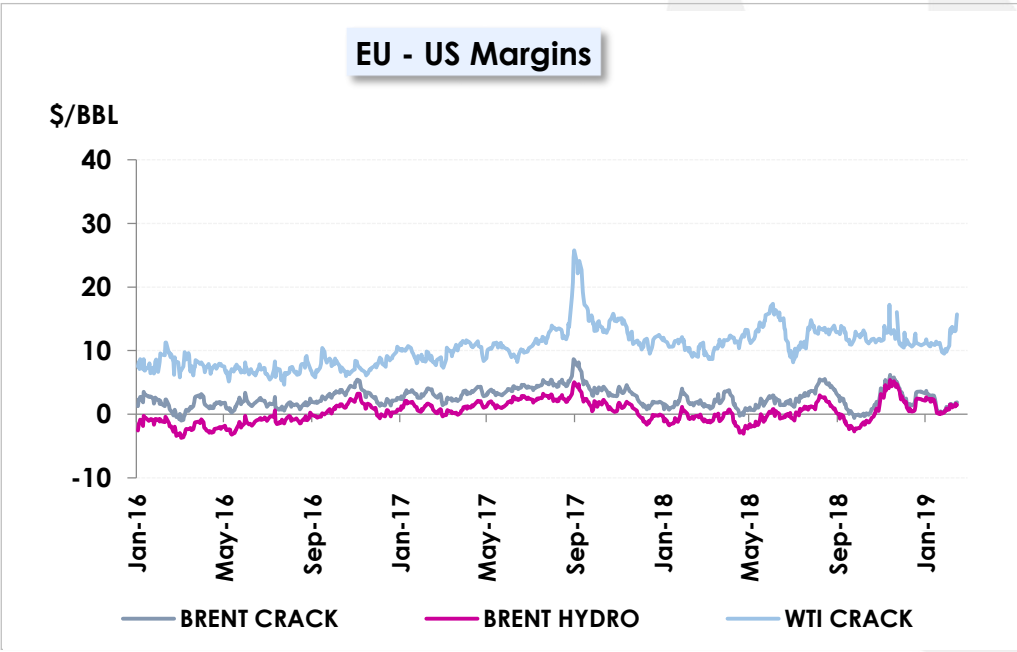
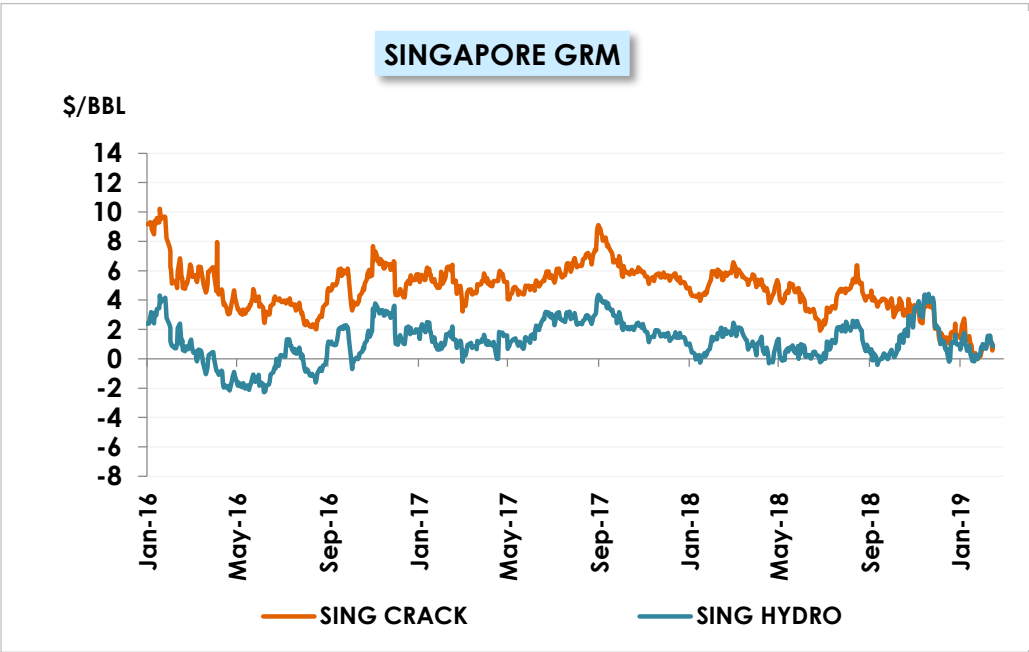
Asia Pacific and Middle East Refinery Addition



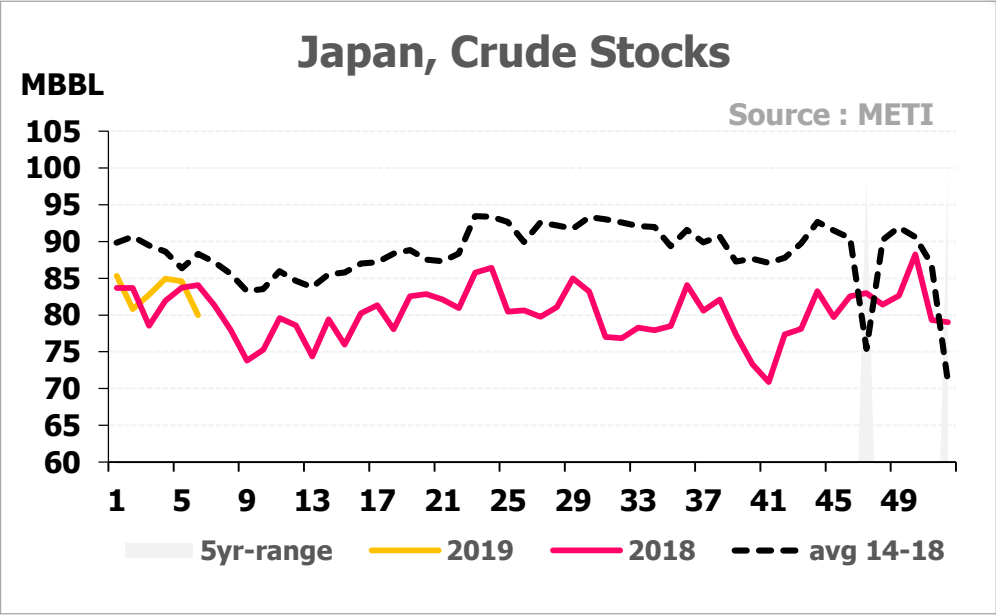
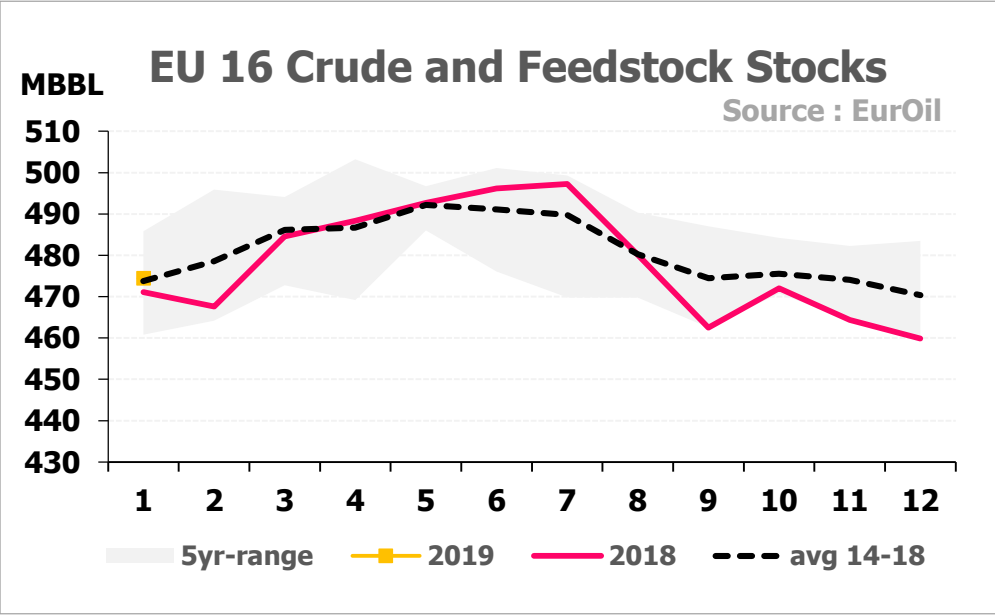
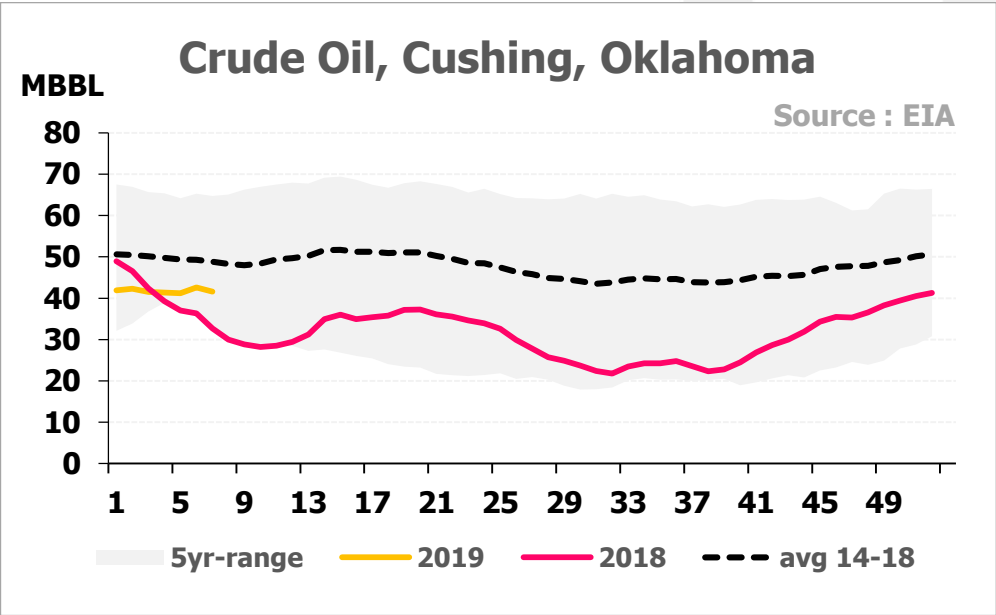
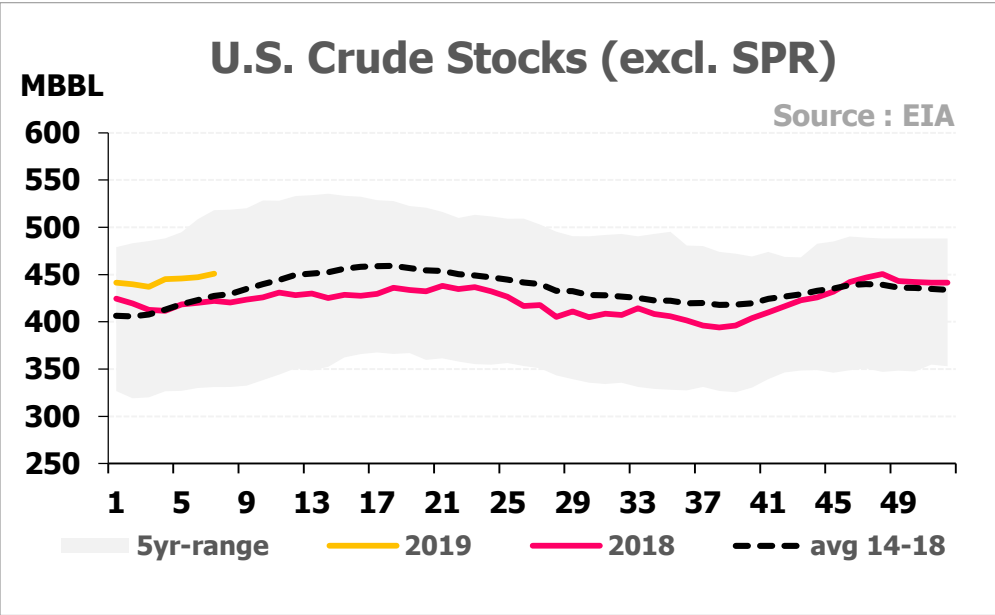
Note: Adjusted capacity based on start-up period (effective additional capacity)

Start-up period)	Country	Nameplate (KBD)	Company
Q1-18	Iran	120	Bandar Abbas - PGSOC/1 (Phase 2)
	Vietnam	186	Nghi Son
Q3-18	China	100	Petrochina Huabei
Q4-18	India (Aug'18 > Oct'18)	36	Bharat - Bina
	Iran	120	Bandar Abbas - PGSOC/1 (Phase 3)
	South Korea	82.8	Hyundai Oilbank – Daesan
Q1-19	China	70	CNOOC/Local Zhonghai Dongying
	Iraq	66	North Refining Company – Baiji
Q2-19	Malaysia (Jul'19 > May'19)	300	Petronas Pengerang (RAPID)
Q4-19	China	400	Hengli Petrochemical Dalian
	Saudi Arabia (Oct'19 > Nov'19)	400	Jizan
	China	60	Sinochem Quanzhou – Fujian
	Iraq	66	North Refining Company – Basra
	Kuwait (Dec'18 > Dec'19)	171	KPC - Mina Al-Ahmadi
Closures			
Q2-18	China	-75	Local refineries
Q4-19	China	-100	Local refineries
	Kuwait (Dec'18 > Dec'19)	-112	KPC - Mina Al-Ahmadi

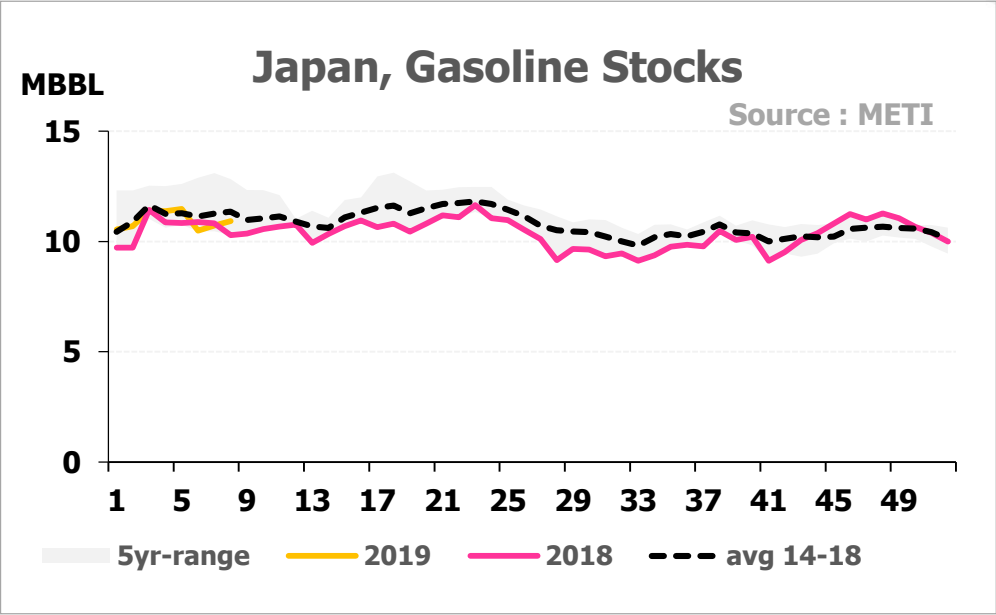
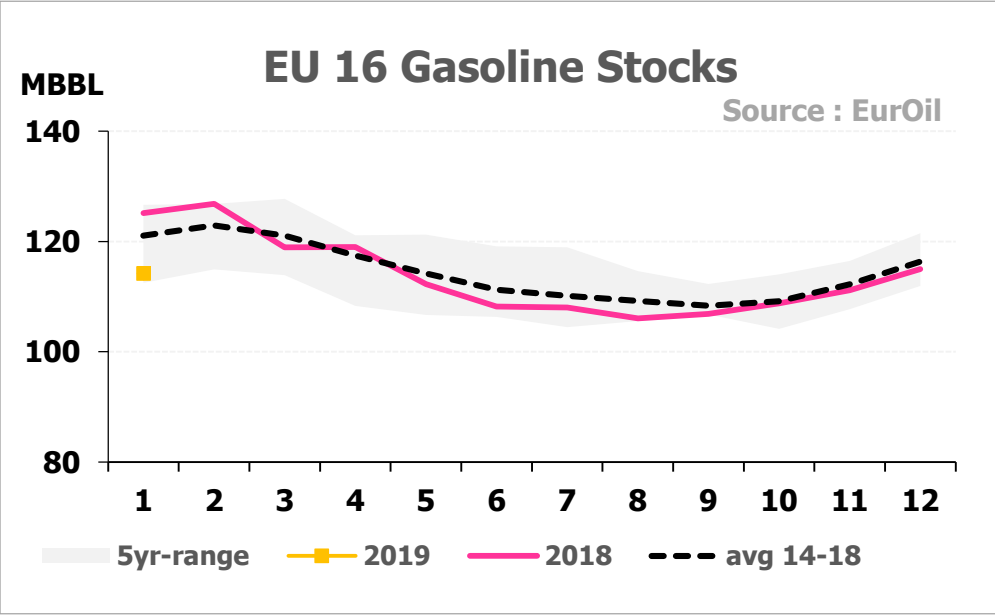
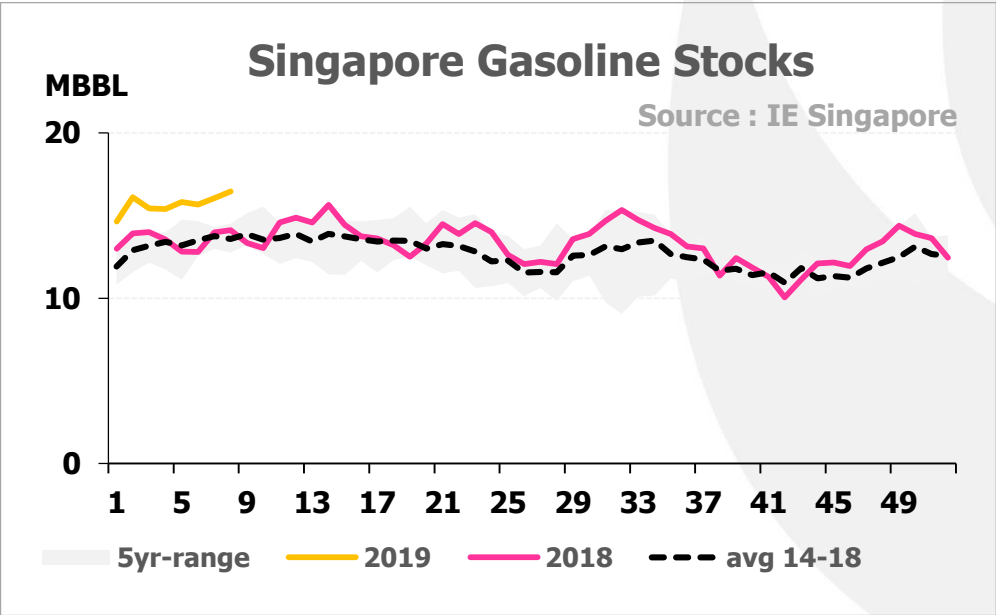
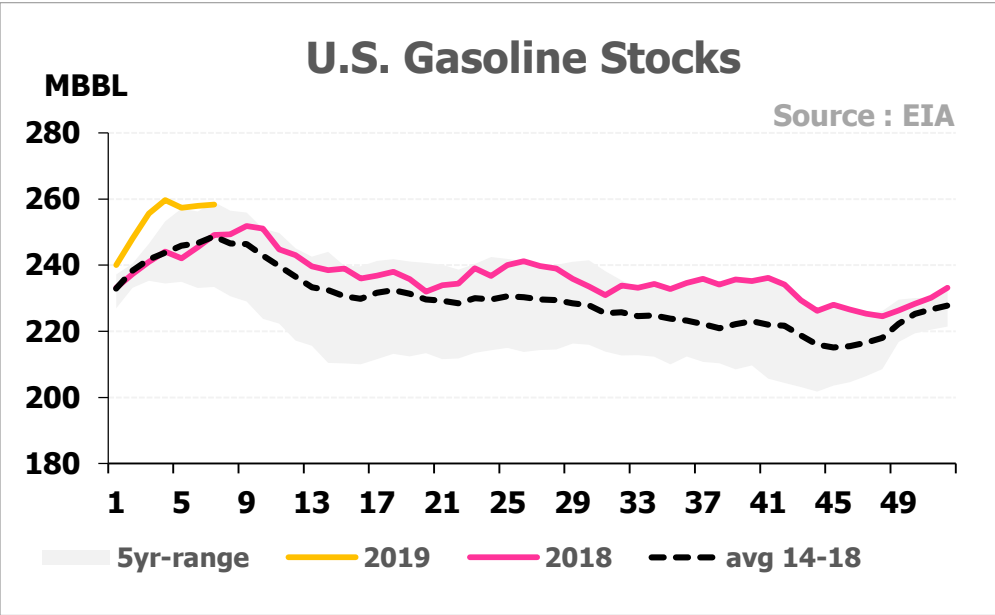
Asian Margin Vs. US-EU margin



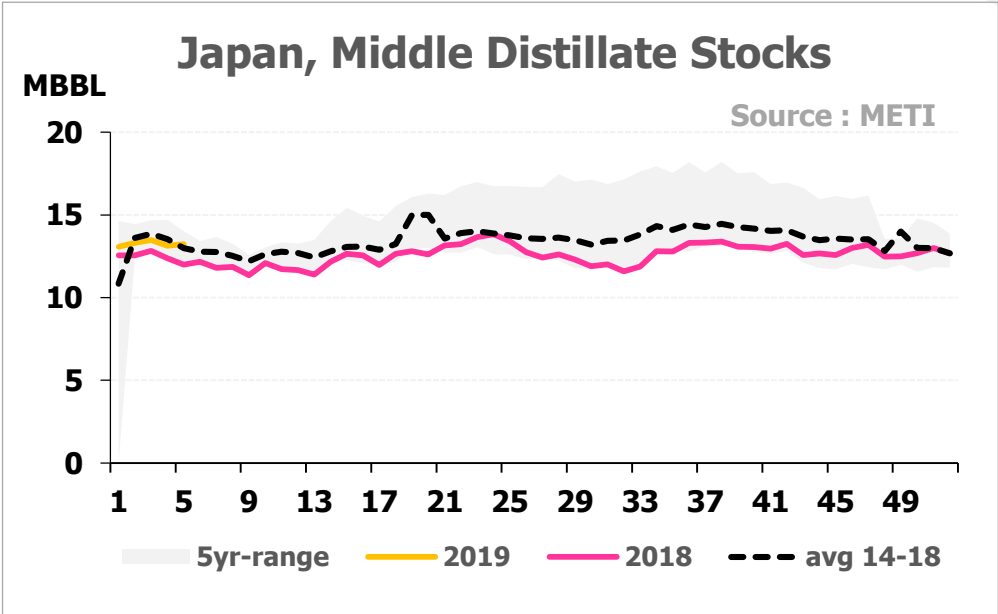
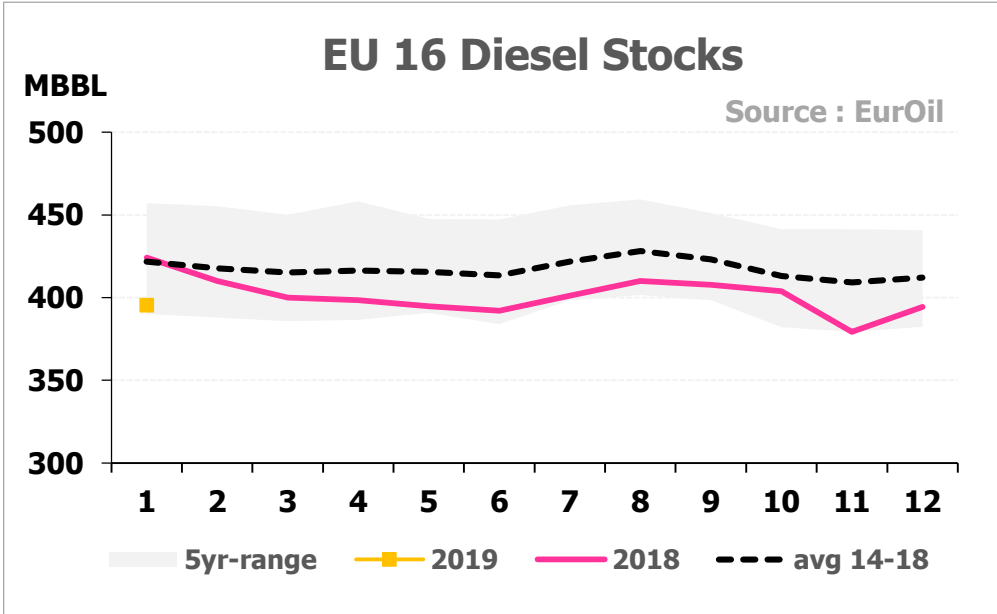
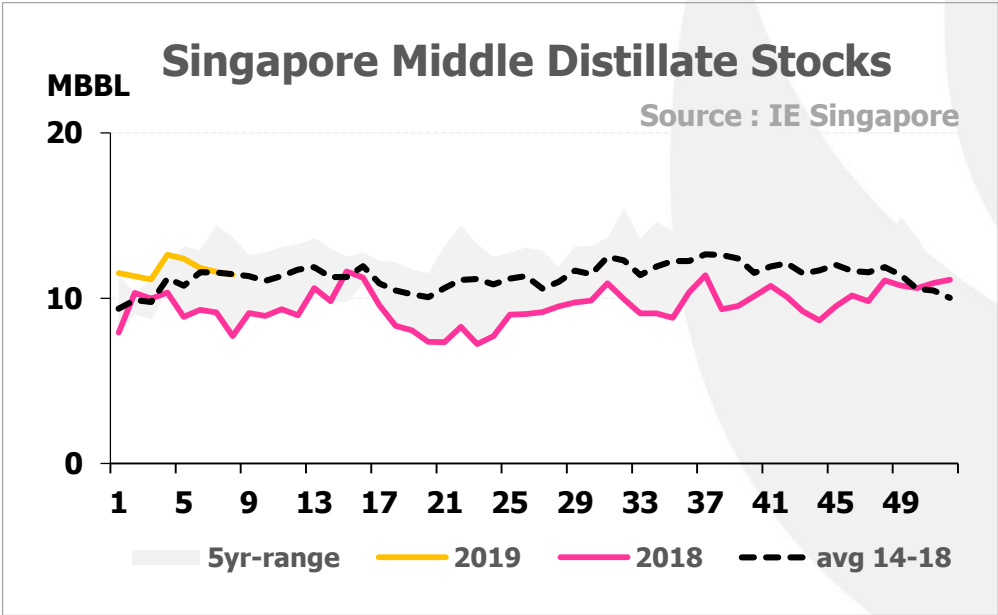
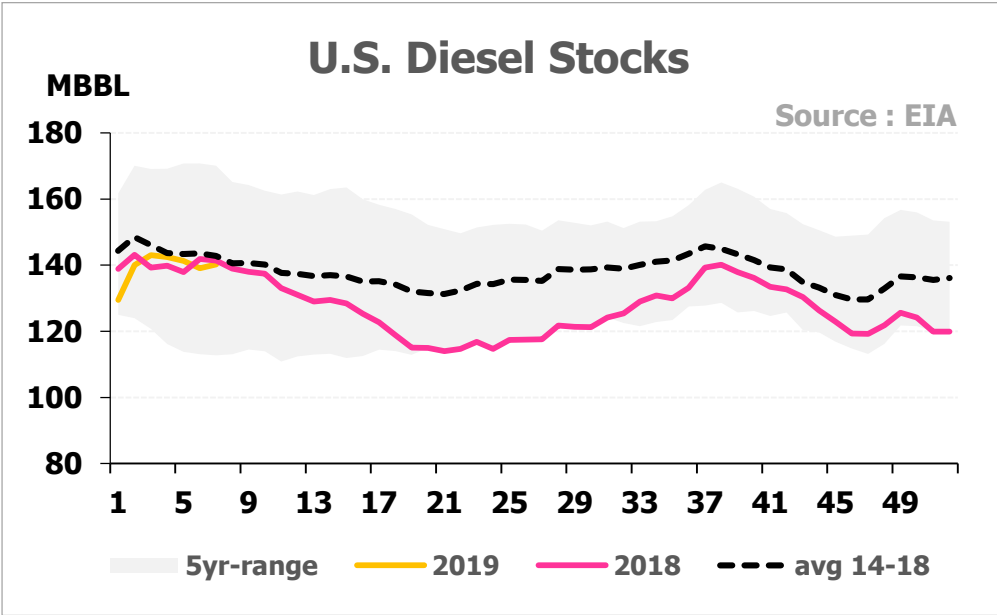
Global Crude Oil Inventories



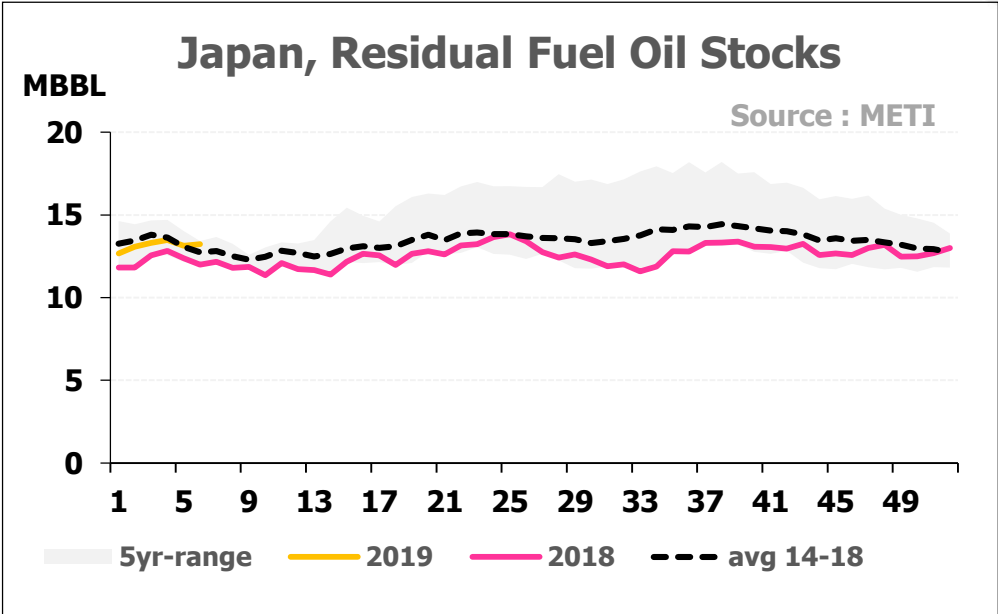
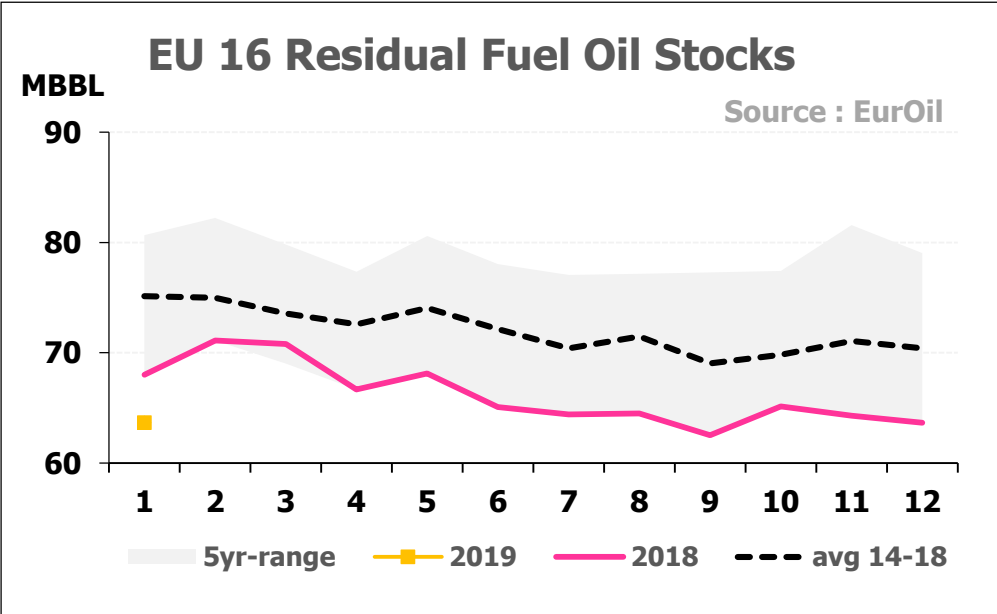
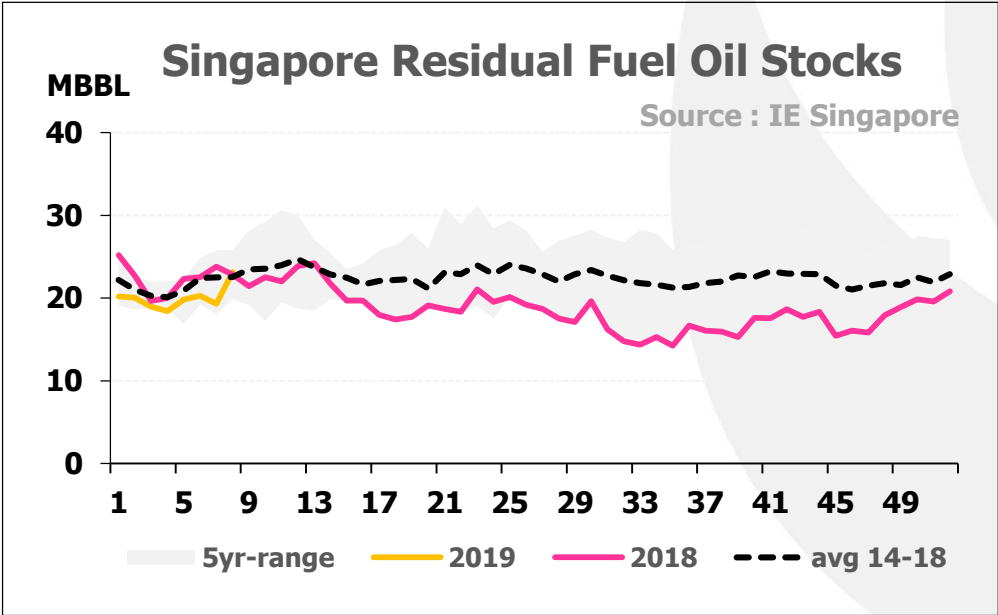
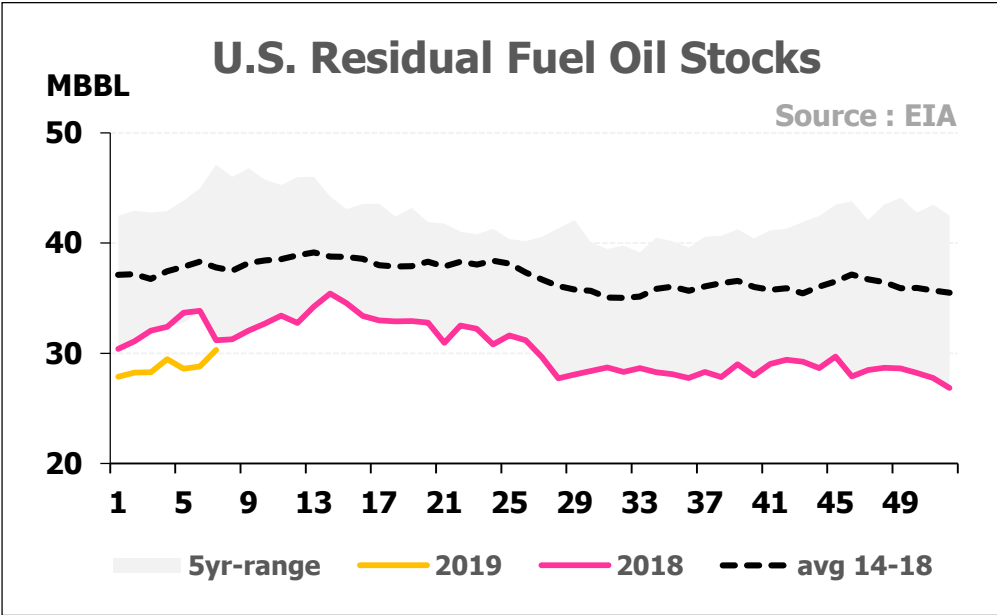
Global Gasoline Inventories



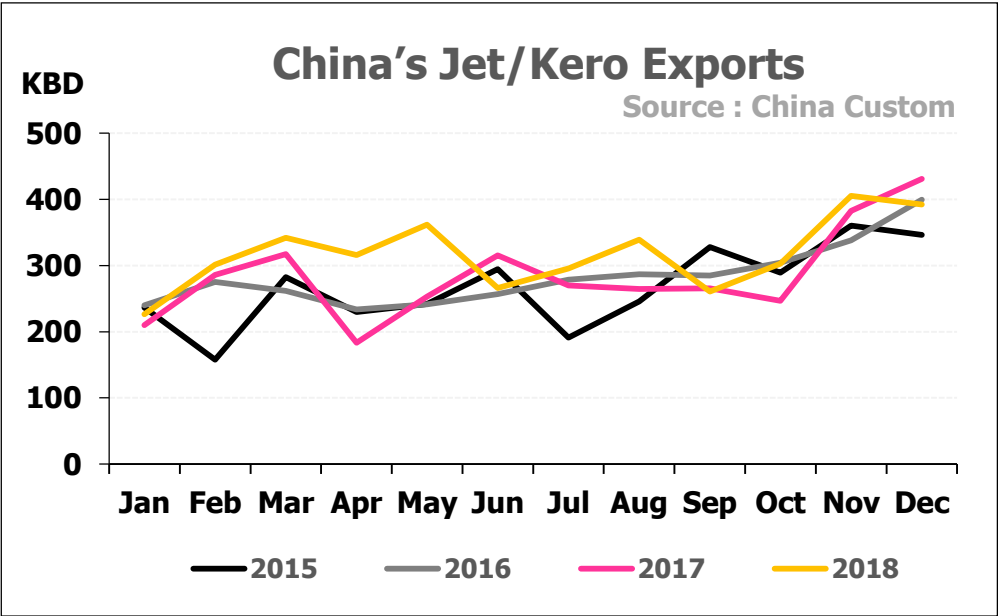
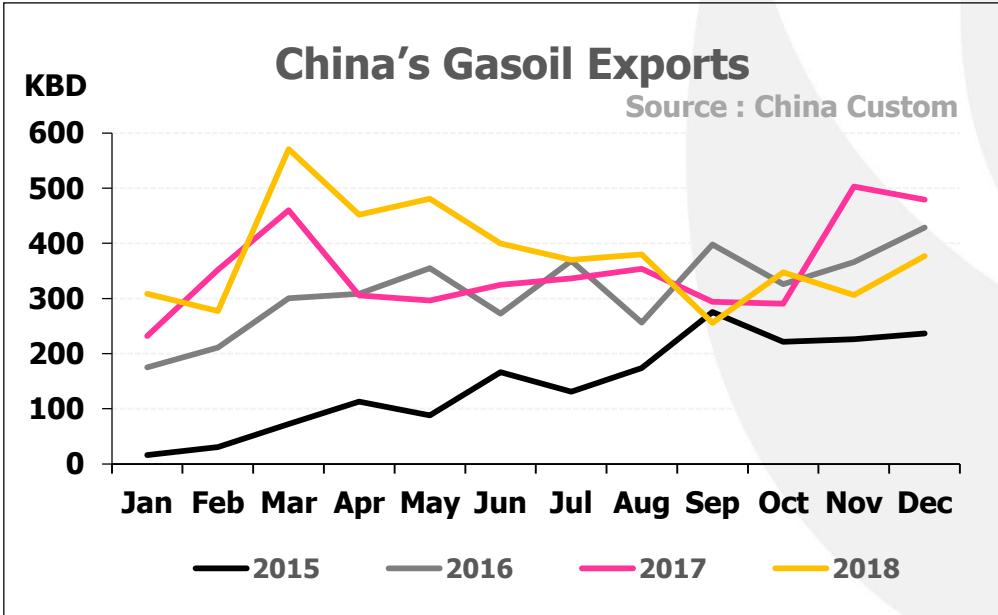
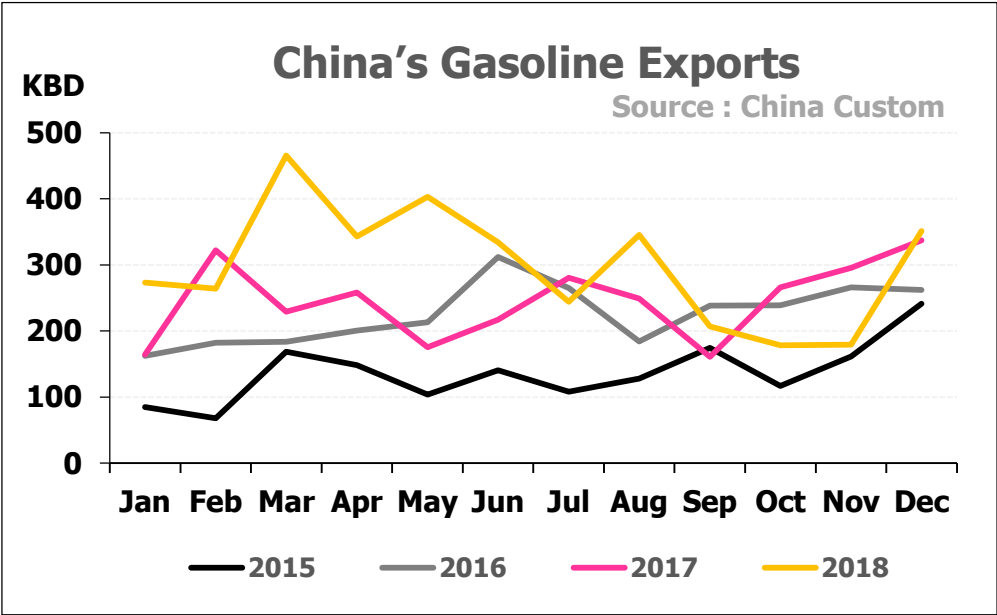
Global Middle Distillate Inventories



Global Fuel Oil Inventories

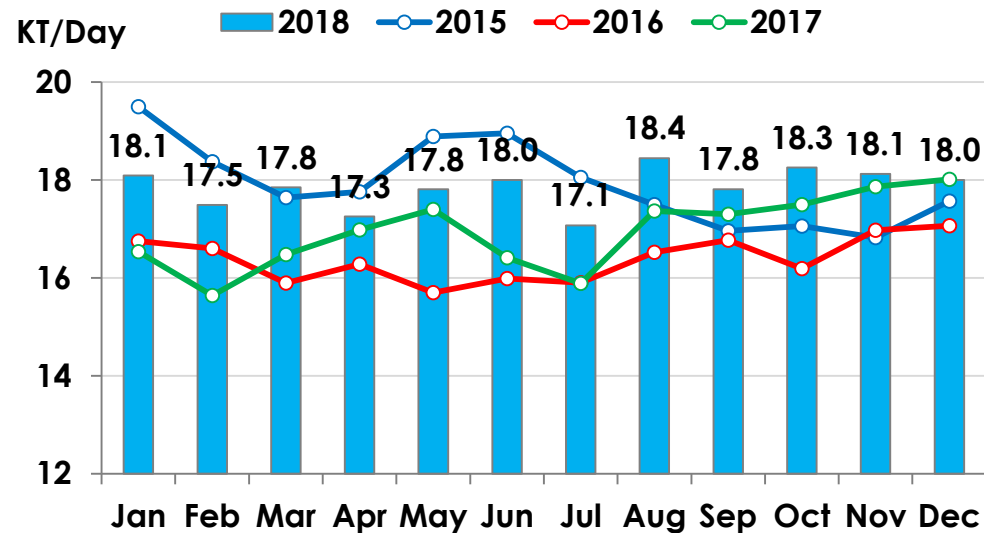


China's Refined Product Exports



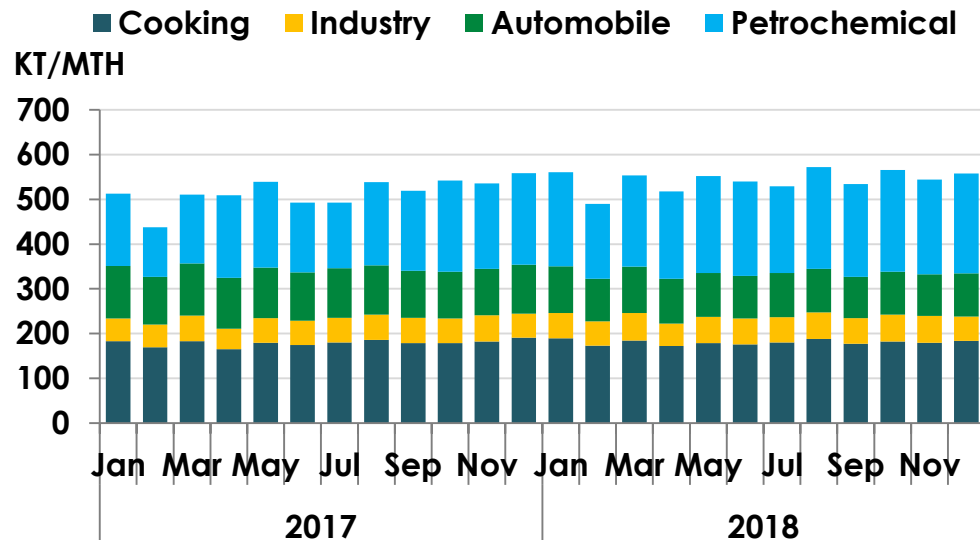
Domestic LPG Demand

Thailand LPG Demand



Remark : LPG demand includes Petrochemical consumption

LPG Demand by Sector



LPG Demand Highlight

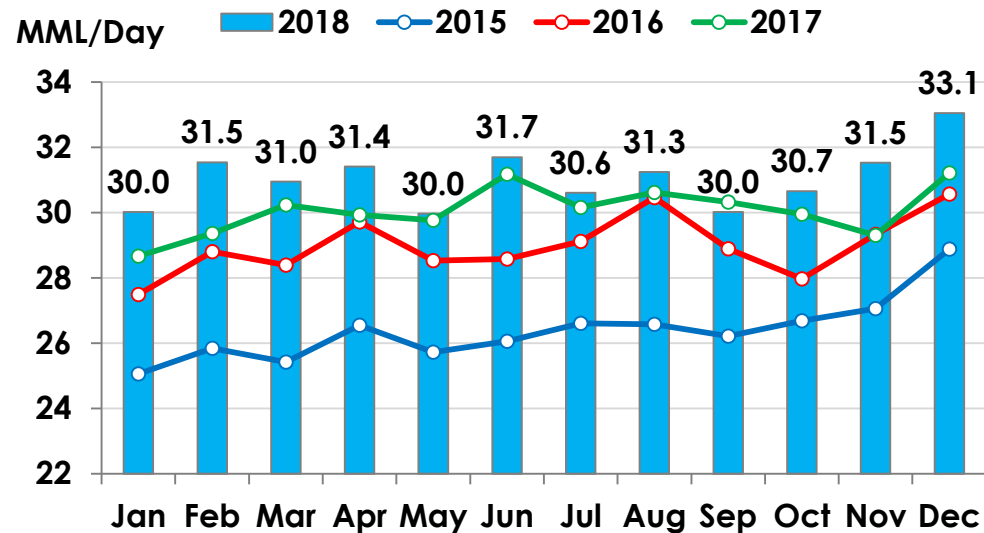
- In 2018, LPG demand jumped by 5.3% YoY on the back of 20.7% YoY higher demand from petrochemical sector, as a result of higher substitute feedstock price. Moreover, LPG demand was also supported by 0.6% YoY, and 5.7% YoY higher demand of cooking sector, and industrial sector, respectively. However, LPG demand in automobile sector persisted falling by 11.3% YoY, according to less availability for LPG station and less LPG compatible cars in the market.

Outlook for 2019

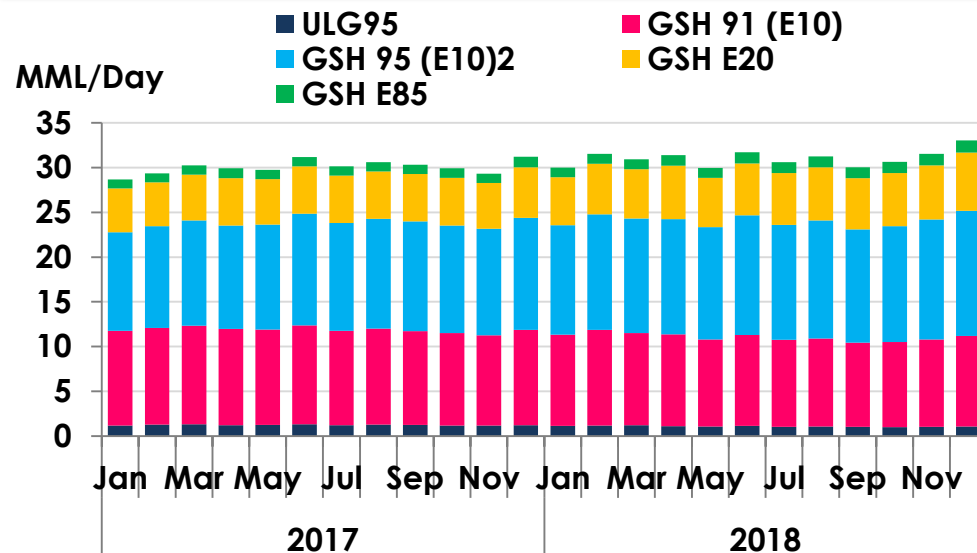
- LPG demand is expected to contract 1.1% YoY as consumption in transport sector is expected to decline at 10.0% YoY due to fuel switching. Despite gasoline price being relatively high, LPG station in Thailand is decreasing hence limiting access to fuelling station for LPG vehicle users. Moreover, the registered number of pure LPG vehicle in Thailand during 2010-2017 fell at a rate of 11.2% per year, which means LPG vehicle has become significantly less popular among automobile users over time.

Domestic Gasoline/Gasohol Demand

Thailand Gasoline/Gasohol Demand



Gasoline/Gasohol Demand by Grade



GASOLINE/Gasohol Demand Highlight

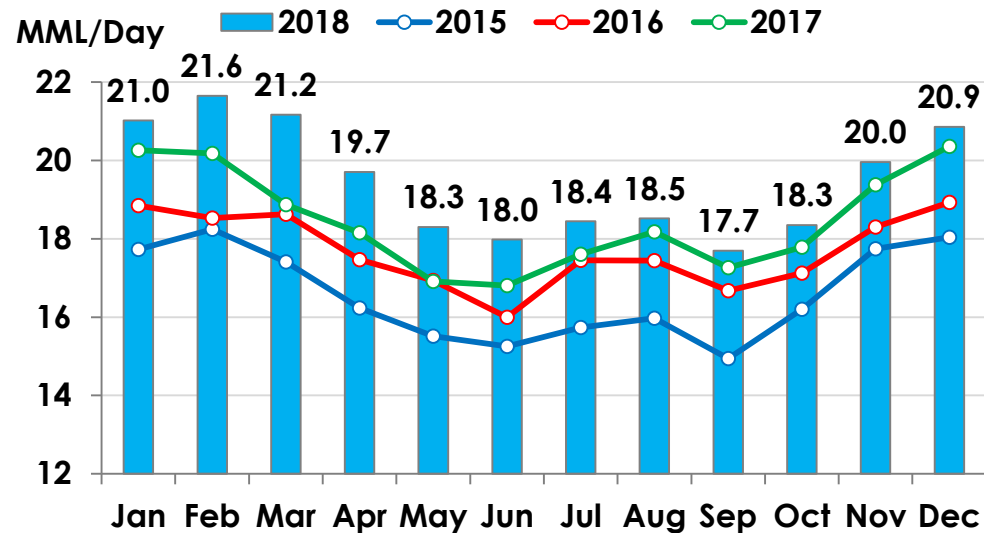
- In 2018, Mogas demand rose moderately by 3.3% YoY to an average 31.1 MML/day. Although, the retail price of Mogas is higher, Mogas demand was still supported by consumer preference for using personal cars rather than public transit. Moreover, Mogas demand is also supported by fuel switching from LPG.
- The level of domestic ethanol demand, in 2018, rose significantly by 6.4% YoY from 3.94 mml/day to 4.19 mml/day following the rising of Mogas demand. Additionally, this was also because of higher demand in GSH95, E20, and E85 which increased by 9.0% YoY, 11.5% YoY, and 13.9% YoY, respectively, backed up by increasing in the number of new E20 vehicle, higher E20 gas station, and attractive GSH95-E20 and E20-E85 price gap.

Outlook for 2019

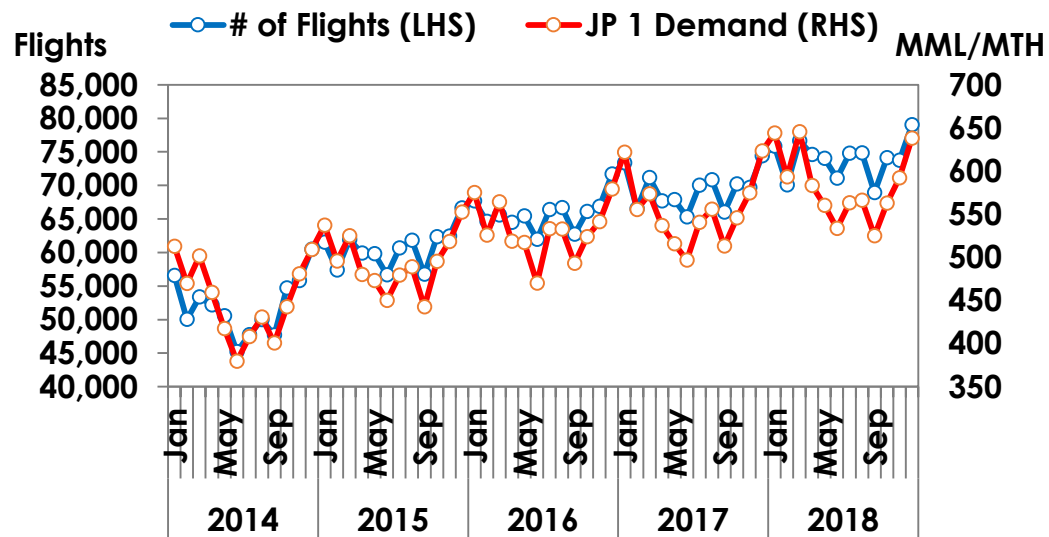
- Mogas consumption is predicted to grow by 2.9% YoY supported by expectation of growing of new passengers cars from return of private consumption. However, the demand growth is limited by higher oil price.

Domestic Jet Demand

Thailand JET Demand



JET-A1 demand and # of flights



JET Demand Highlight

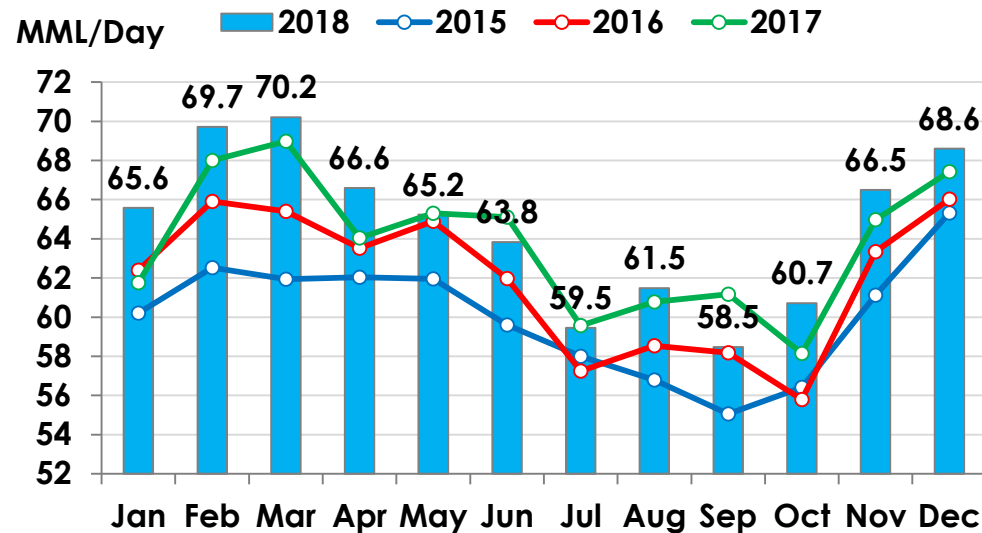
- In 2018, Jet consumption increased significantly by 5.4% YoY owing to strong tourism industry which leads to 6.5% YoY higher aircraft movement. The 7.1% YoY expansion of tourism sector was a result of increasing number of Chinese, Russian, and ASEAN tourists, pushing the number of flight movements higher both international and domestic aircrafts.

Outlook for 2019

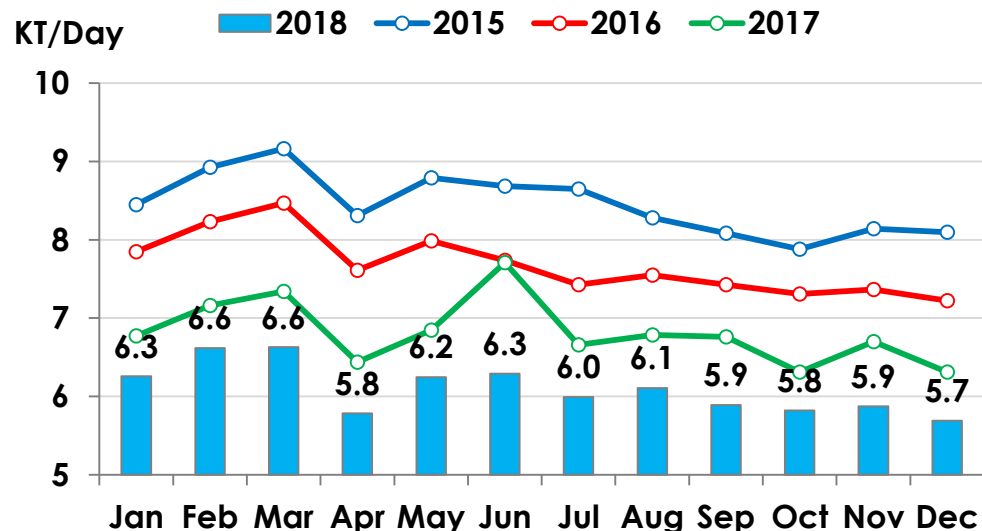
- Jet demand growth is expected to grow by 3.7% YoY as a result of rapid tourist number growth, especially from ASEAN. Furthermore, the demand is also supported by the return of European and Russian tourists. However, since the Phuket accident back in Jul'18, we have seen the undesirable decline in Chinese tourist figure which could potentially continue to be the major threat to Thailand tourism sector in the first quarter of 2019.

Domestic Gasoil and NGV Demand

Thailand Gasoil Demand



NGV Demand



Diesel Demand Highlight

- In 2018, Diesel demand rose moderately by 1.5% YoY as a result of the growth of Thai economic, according to higher Manufacturing Production Index (MPI) by 2.9% YoY. Moreover, the demand is also supported by 6.7% YoY higher Thai Agricultural Production Index, which increased agricultural product transportation activity.

Outlook for 2019

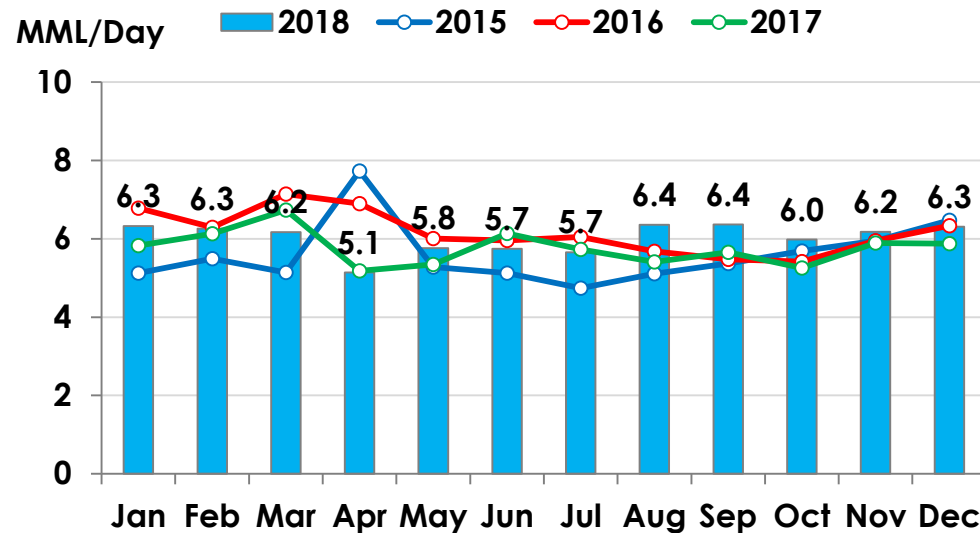
- Diesel demand is expected to expand by 1.7% YoY supported by economic activity. Moreover, NOAA (National Oceanic and Atmospheric Administration) predicts less rainfalls as El Nino is more likely to occur than La Nina.

NGV Demand Highlight

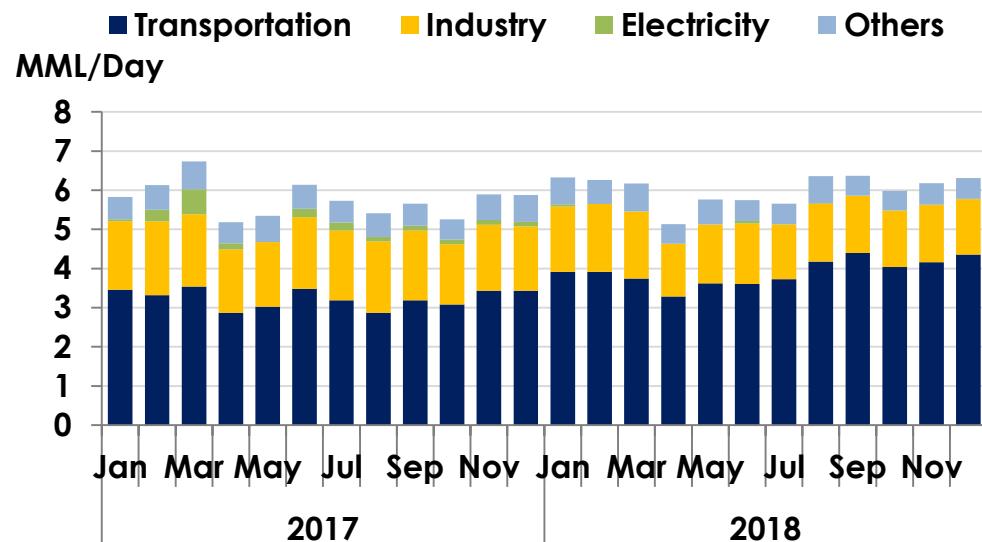
- In 2018, NGV demand fell significantly by 10.5% YoY. The major pressuring factor was the unforgettable hike in retail price as it has inclined for more than 20.0% from the beginning of 2018. Furthermore, gasoline price dropped significantly in the latter year, making gasoline more popular among consumers.

Domestic Fuel Oil Demand

Thailand Fuel Oil Demand



Thailand Fuel Oil Demand by Sector



Fuel Oil Demand Highlight

- In 2018, Fuel Oil consumption rose by 4.5% YoY, as a result of 20.8% YoY higher demand from transportation sector which takes approximately 66.1% of total Fuel oil demand. Transportation demand has accelerated since Aug-18 due to Singapore's Fuel oil off-spec issue which shifted demand to Thailand. However, the Fuel oil demand was pressured by 12.9% YoY lower demand from industrial sector, as a result of higher price of fuel oil, comparing to other fuel. Furthermore, the Fuel oil demand was also pressured by 92.5% YoY lower demand from electricity generation sector.

Outlook for 2019

- Fuel oil demand is expected to increase by 0.6% YoY, supported by transportation demand from economic activity. However, demand growth will continue to be limited by weak consumption for industrial and electricity purposes.

Thank You

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