

INVESTOR UPDATE

August 2019



Agenda



Company Profile



Performance Highlight



Projects Update



Strategic Direction



Industry Outlook



Appendix

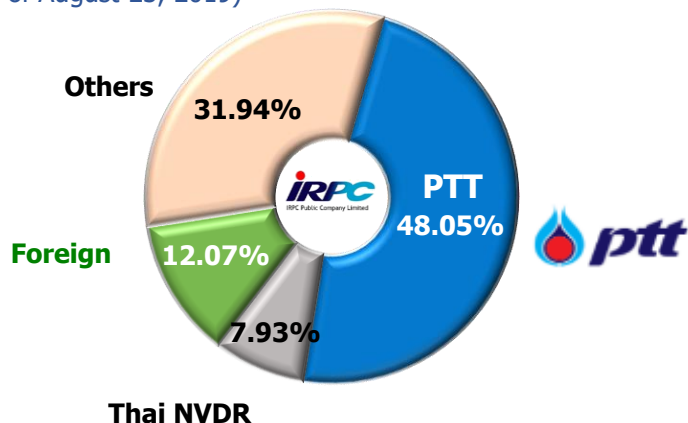
- Dividend Payment
- CAPEX Plan
- Financial Position
- Financial Performance
- History
- Turnaround Plan 2019

Introduction to IRPC

Integrated Petrochemical Complex

Shareholding Structure*

Market Cap. : 78,059 MB
(as of August 23, 2019)



*Note: as of Feb 2019

Operational & Strategic Relationships with PTT Group

Crude Procurement & Credit Term

- PTT secures 100% crude procurement for IRPC at the market price
- Receive 60 days credit term from PTT

Product Swaps and Off-takes

- Petroleum Product off-take and swap agreement with PTT group on arm-length basis

Financial and Risk Control Systems

- Strong support of credit facilities from PTT thru Intercompany Borrowing & Lending (ICBL) program
- IRPC are under umbrella of PTT group's central treasury management framework

Complex & Facilities



- Integrated petrochemical complex:** Upstream to downstream in a single complex
- Locate in Industrial Area:** Eastern Seaboard Area of Thailand, 200 km. from Bangkok and 30 km. from Map Ta Phut Industrial Area
- Facility Support:**
 - Deepest sea port
 - Tank Farm and Power Plant
 - Thailand's main coastal highway

Credit Rating



A(th)

Stable Outlook



Ba1

Positive Outlook



BB+

Positive Outlook

Petroleum and Petrochemical Capacity

IRPC Core Business

Petroleum

Unit: KBD



- ❑ **Refinery** **215**
 - LPG
 - Naphtha
 - Gasoline
 - Diesel
 - Fuel Oil

Unit: KTA

- ❑ **Lube Base** **920**
 - Lube Base Oil
 - Asphalt

Crude Refining Capacity
215 KBD

Petrochemical

Unit: KTA



- ❑ **Olefins** **1,221**
 - Ethylene
 - Propylene
 - Butadiene
- ❑ **Aromatics** **367**
 - Benzene
 - Toluene
 - Mixed Xylene
- ❑ **Styrenics** **260**
 - EBSM
- ❑ **Polyolefins** **915**
 - HDPE
 - PP
- ❑ **Polystyrenics** **352**
 - ABS
 - PS
 - EPS

Petrochemical Capacity

- Monomer 1,848 KTA
- Polymer 1,267 KTA

3,115 KTA

Facilities & Utilities



Deep Sea Port



Freehold Land
4,750 Acres
(~12,000 Rais)



Utilities
5 Depots,
307 MW Power plant

1

**Integrated
Petrochemical Complex &
Product Diversification**

- **Refinery Capacity : 215 KBD** (crude distillation unit)
- **Petrochemical Capacity : 3,115 KTA** (Olefins, Aromatics, Styrenics, Polyolefins, Polystyrenics)

2

**Remarkable Position
in ASEAN
Polymer Market**

- **PP 3rd largest in South-East Asia: 775 KTA**
- **HDPE pipe grade 140 KTA**
- **ABS 179 KTA: The Largest producer in Thailand**

3

**The largest
lube base oil capacity
in Thailand**

- **Lube base oil : 320 KTA**
- **Asphalt : 600 KTA**

4

**Sustained earnings
from facility
and utility businesses**

- **Power & Utility business : ~ 1.0 \$/bbl to GIM**
- **Additional contribution from utility JV starting from 2018**
- **Stable income from Port and Tank business**

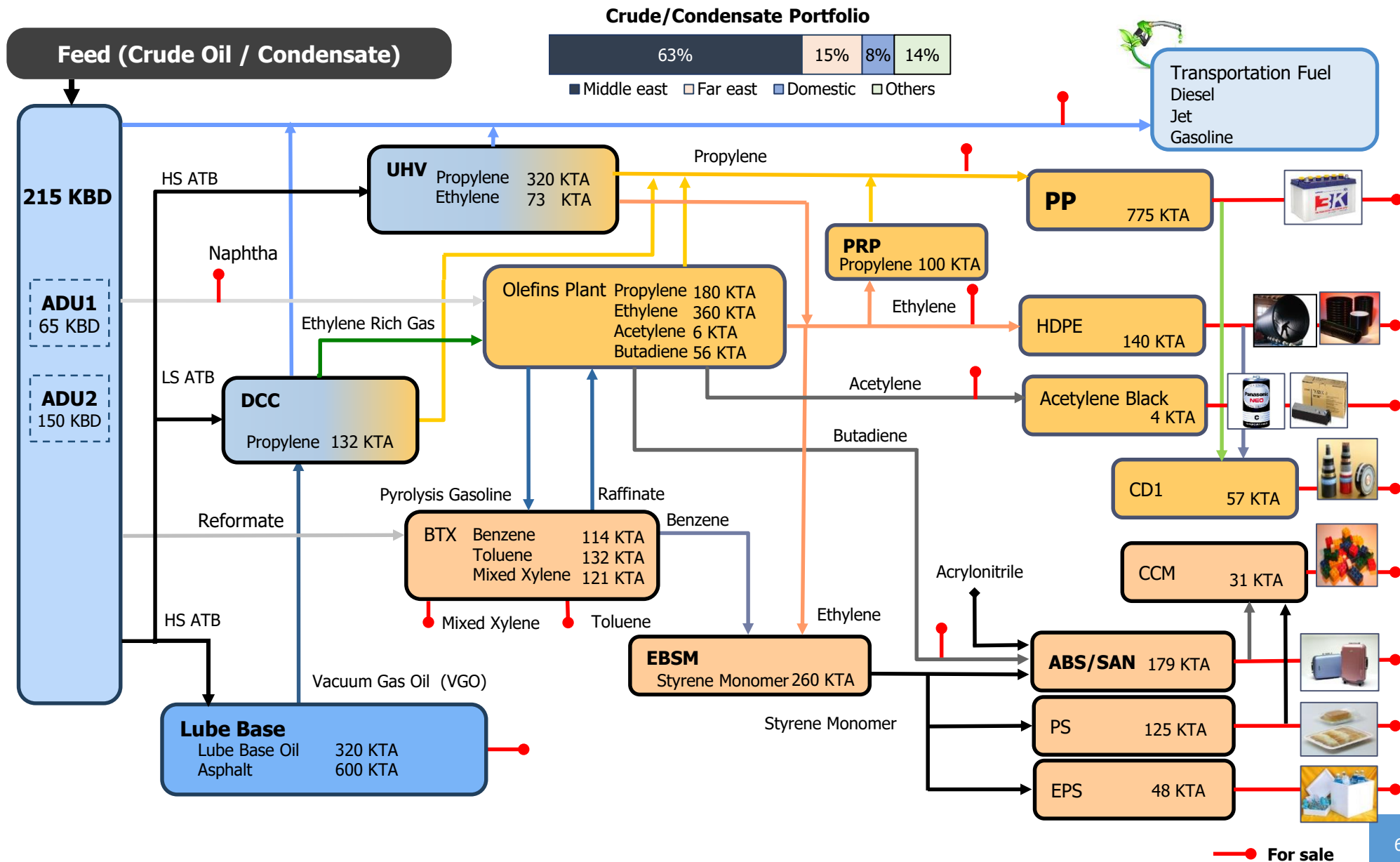
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**Specialty Petrochemical
to capture
higher margin**

- **51% of specialty petrochemical portfolio**
- **PPC to add more specialty Petrochemical Products**
- **Specialty : 10-20% higher margin vs Commodity**

Petroleum and Petrochemical Value Chain

Optimized Configuration & Product Diversification





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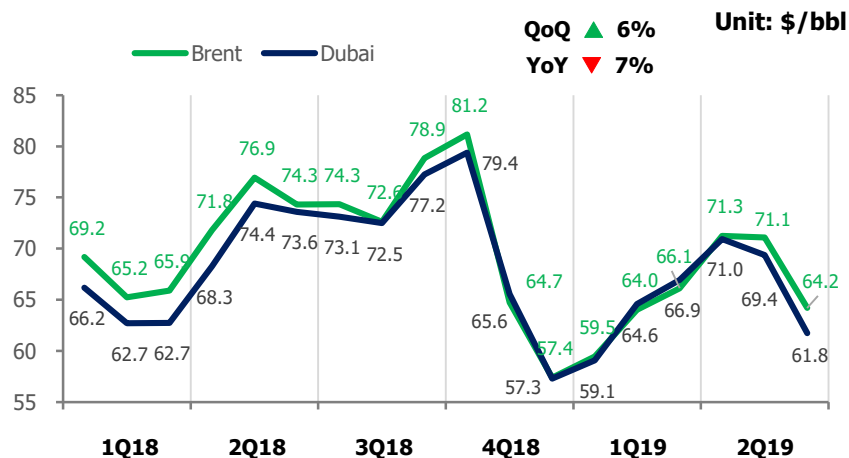
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Key Drivers

2018: Maintained high margin through projects completion amid volatile crude oil price

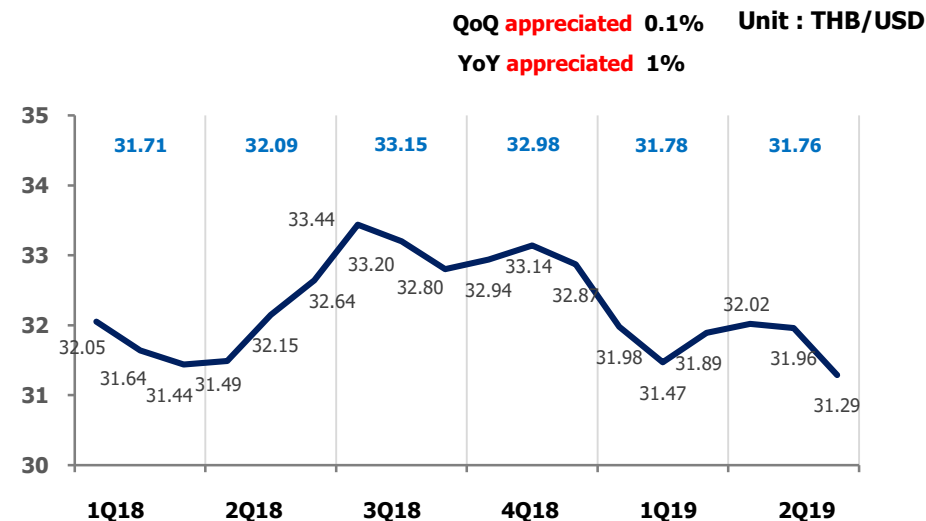
1H19: Petchem spread has dropped as U.S.-China Trade War

Dubai Crude Oil Price (avg.)

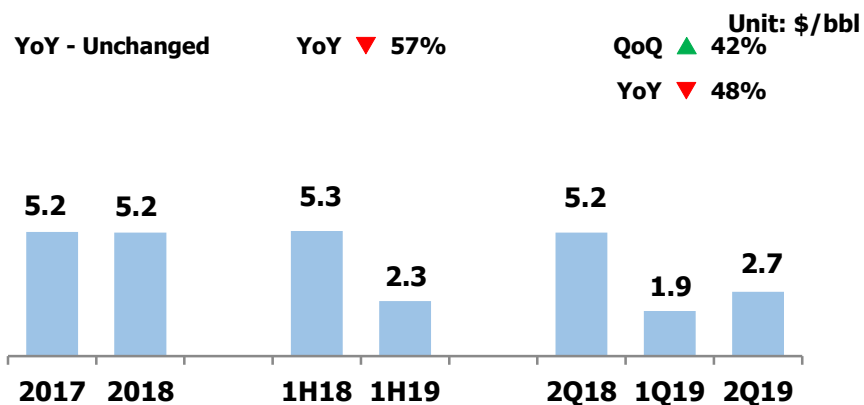


	1Q18	2Q18	3Q18	4Q18	1Q19	2Q19
Brent (Avg)	66.8	74.4	75.3	67.8	63.2	68.8
Dubai (Avg)	63.9	72.1	74.3	67.4	63.5	67.4

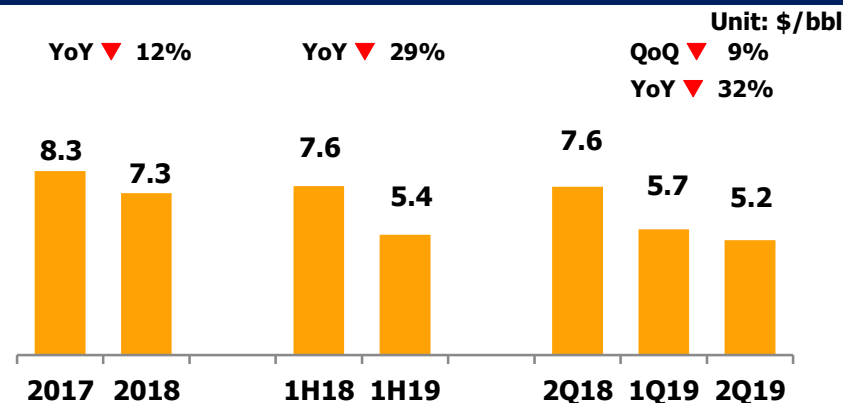
Foreign Exchange (avg.)



Gross Refining Margin (GRM)



Product to Feed Margin (PTF)



Key Performance

2018 : Better operating income from higher U-Rate despite crude premium increased

1H19 : Softer performance as weaken products spread & RDCC planned shutdown

Dubai (Avg.)

Unit: \$/bbl



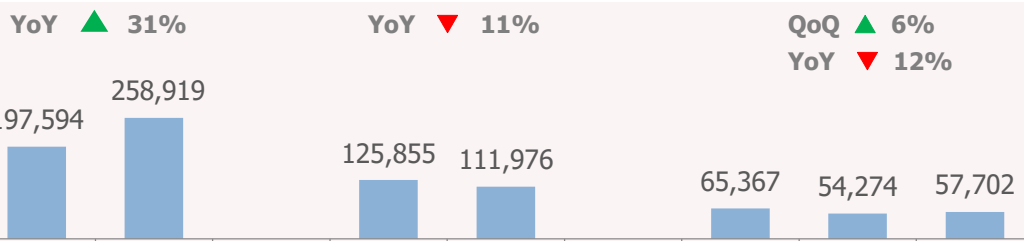
Crude Run (KBD)



Net Sales

(net excise tax)

Unit: MB



Market GIM (\$/bbl)



Net Stock G/(L)(\$/bbl)

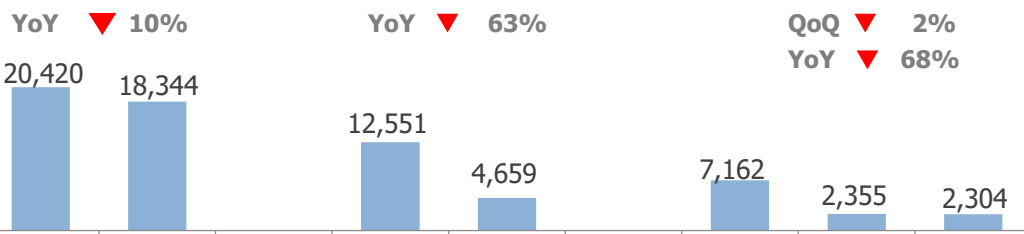


Acct. GIM (\$/bbl)



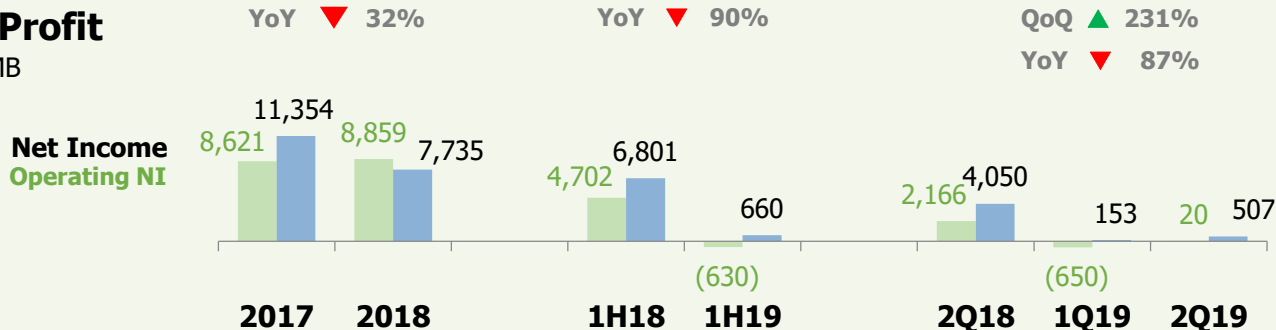
EBITDA

Unit: MB



Net Profit

Unit: MB

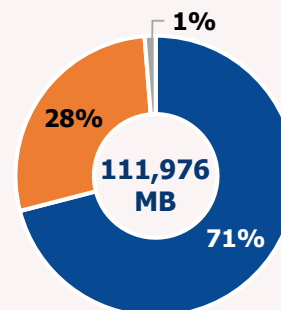


Performance by Business

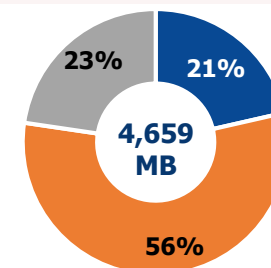
1H19

Net Sales

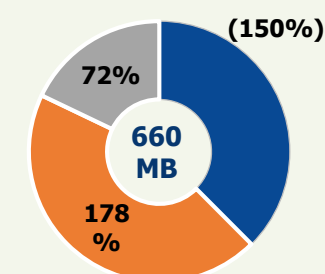
(net excise tax)



EBITDA



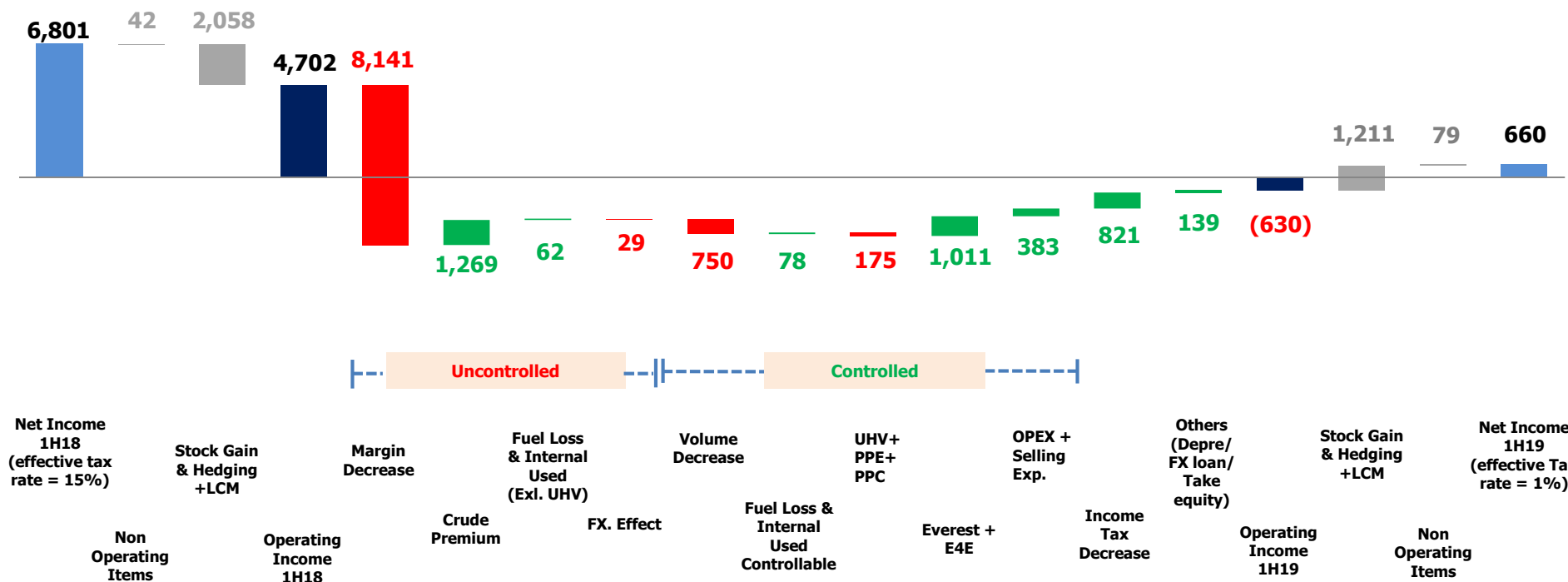
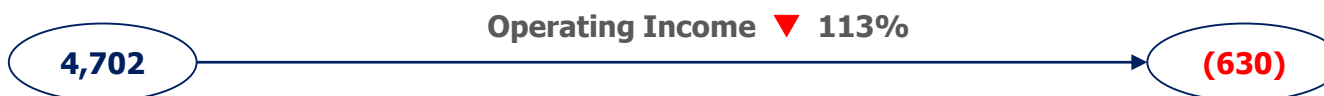
Net Profit



Operating Net Income: 1H19 vs 1H18

According to lower spread & RDCC planned shutdown led to lower operating income

Unit: MB



Everest+E4E Project Highlight

1H19: Everest+E4E contributed 51% of plan



Everest

2018
Actual

1H19
Actual

2019
(Plan)

Unit : MB of EBIT

Key Area



Operations Area

4,276

1,897

4,441



Integrated Supply Chain

1,821

1,007

2,455



Commercial Area

1,444

1,374

1,822



Procurement Area

31

-

-



Corporate Area – Non HR

397

167

406



Corporate Area - HR

1

-

-

Total Everest

7,970

4,445

9,124



Everest Forever (E4E)

1,397

1,250

2,085



Total Everest + E4E

9,367

5,695

11,209

51% of Plan



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UHV project : Major CAPEX

Improve product yield and earnings

UHV

Upstream project for Hygiene & Value-added Products

Objective : Upgrade low value to high valued-added products

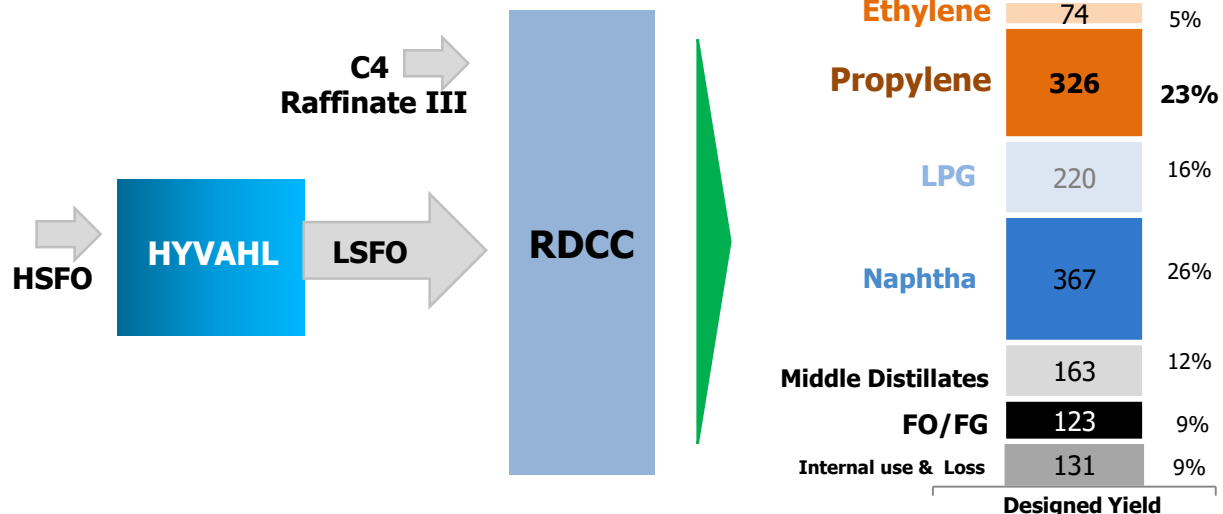
Investment : \$ 1.1 bn

COD : Jul. 2016

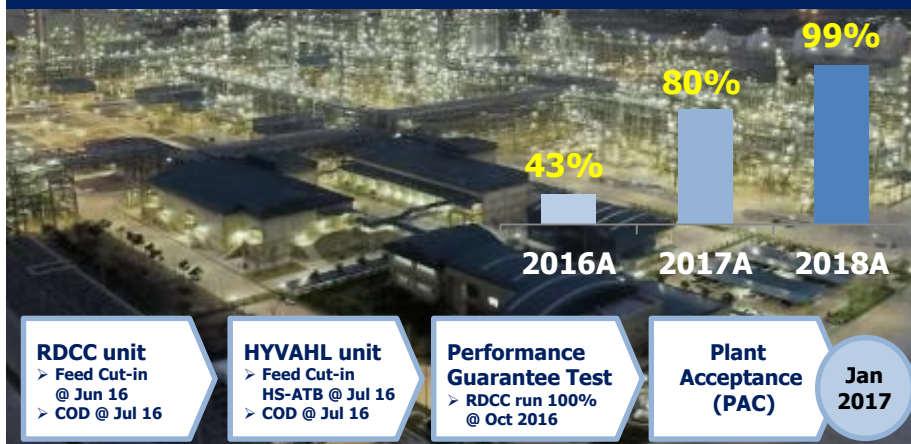
Benefit : GIM 1.5-2.0 \$/ bbl

Assumption : Spread propylene to FO ~ 500-600 \$/ton

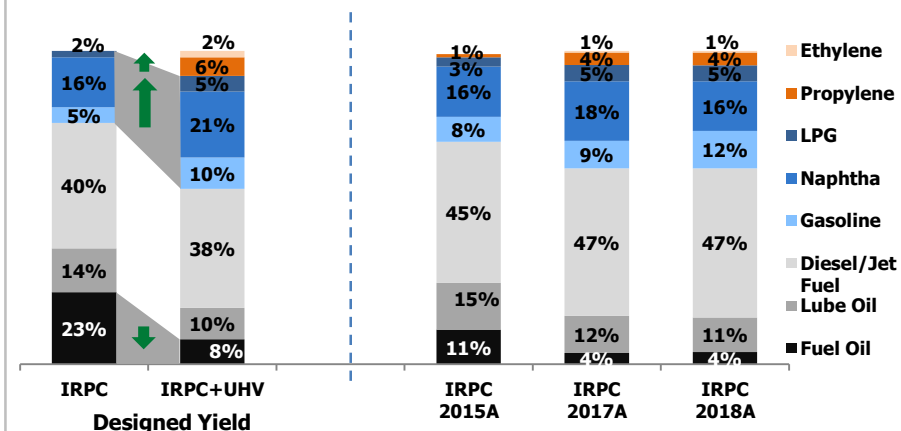
Flow Diagram



Upgrade to High Valued-Added products



IRPC's refined Production Yield



PPE&PPC Benefit Enhancement

Fulfill UHV benefits thru higher margin on PPE & PPC

PP Expansion and PP Compound Project



PP Expansion Project (PPE)

- ❖ Licensor : Novolen
- ❖ Capacity : 160 KTA
- ❖ PMC : Foster Wheeler,
- ❖ EPC : Sinopec

- CAPEX : \$ 236 mn
- ↑ GIM 0.8-1.0 \$/bbl
- COD : 4Q17



PP Compound & Specialties (PPC)

- ❖ Licensor : JPP
- ❖ Capacity : 140 KTA
- ❖ PMC : Foster Wheeler
- ❖ EPC : Sinopec

Total PP 775 KTA in 2017

PP Existing 475 KTA

PPE 160 KTA

PPC 140 KTA

Random PP

- Pipe grade
- Hygiene



Super Clear PP

- Container box
- Medical Device



Block-CO PP

- Household Material
- Heavy-duty



HOMO PP

- Film application
- Fiber grade



PP Specialty

- Frozen food packaging
- Lamination
- Health care

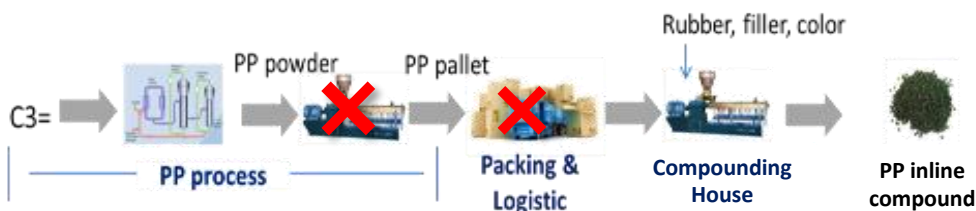


PP Compound

- Automotive: pumper, instrument panel, etc



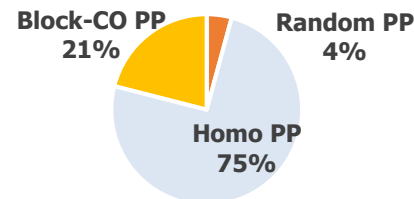
Lower cost : PPC production by Inline process technology



- Note: Cost Saving
- No Packing & Logistic
 - No 2nd Extruder Process

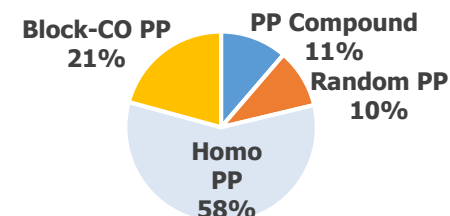
PP Marketing Strategy : Sales Plan

Y2017



Volume: 600 Ktons

Y2022

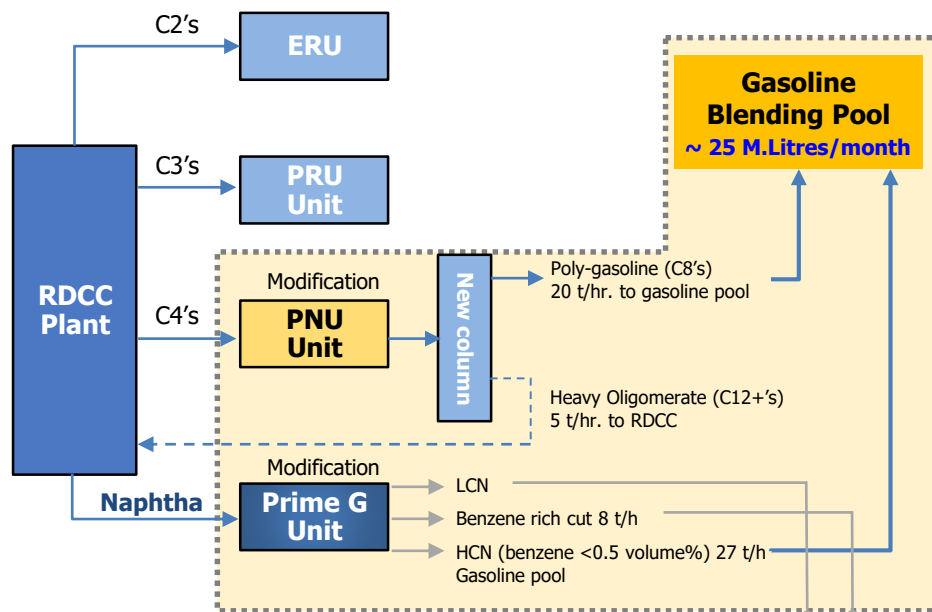


Volume: 760 Ktons

Project Update

Gasoline Max. : Better than target, Cat. Cooler construction on schedule

Gasoline Maximization Project



ERU – Ethylene Recovery Unit
PNU – Naphtha Oligomer Unit

PRU – Propane-Propylene Splitting Unit
Prime G – Naphtha Hydro-treating Unit

CAPEX : 724 MB
IRR : ~ 80%
Benefit : ↑ GIM: 0.4\$/bbl
COD : Nov.2017

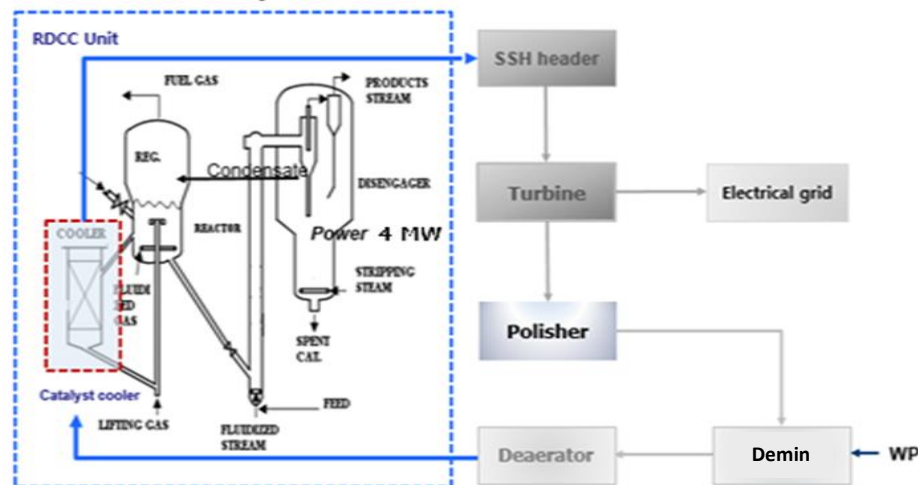
Results:

- Gasoline volume increase 40 mn liters per month, higher than target of 25 mn liters

UHV Catalyst Cooler in RDCC plant

Project Objective :

- Crude selection → more heavy crude
- More electricity & steam



Note: 3 tie-in points of catalyst cooler project are included in 2017 Turnaround

CAPEX : ~ 1,320 MB
IRR : ~ 35%
Benefit : ↑ GIM: 0.3\$/bbl
Construction Progress : 99% (As of July 19)

- Complete run performance guarantee process on 27 April 2019 (Phase I)
- Progress : Commissioning test Generator 4 MW.
- COD : May 2019 (Phase I-Catalyst Cooler)
- COD : End of Aug 2019 (Phase II-Generator)

Project Update : Benefit Tracking

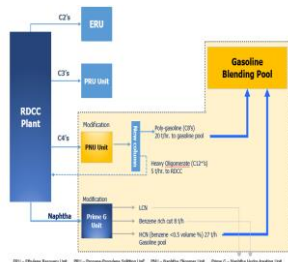
UHV	Gasoline Maximization	PP expansion	PP Compound	Catalyst Cooler	UHV & UHV value added & PPE & PPC
<ul style="list-style-type: none"> Upgrade low value to high value-added products 2016 U-Rate: 43% CAPEX : ~ \$ 1.1 bn ↑ GIM 1.5-2.0 \$/bbl 	<ul style="list-style-type: none"> Increase UHV benefit Maximize Gasoline Yield Reduce Thailand import CAPEX : 724 MB Capacity: 40 mn litre/month ↑ GIM 0.4\$/bbl 	<ul style="list-style-type: none"> Capacity:160 KTA CAPEX : 3,248 MB ↑ GIM 0.4\$/bbl 	<ul style="list-style-type: none"> Capacity: 140 KTA CAPEX : 5,323 MB ↑ GIM 0.4\$/bbl 	<ul style="list-style-type: none"> UHV value added Flexibility of crude selection ↑ Utility from cracking heavy crude molecule CAPEX : ~ 1,320 MB COD : ~ May 2019 ↑ GIM 0.3\$/bbl 	UHV & UHV value added & PPE & PPC
COD : Jul. 16	COD : Nov. 17	COD : Sept. 2017	COD : Dec . 2017	MC : Feb 19 COD Plan : End 1Q19	Total Benefit to GIM: \$/bbl
UHV 2017: 1.35 \$/bbl 2018: 1.51 \$/bbl 2019F: 1.70 \$/bbl	Gas Max. 2017: 0.06 \$/bbl 2018: 0.44 \$/bbl 2019F: 0.40 \$/bbl	PPE 2017: 0.13 \$/bbl 2018: 0.43 \$/bbl 2019F: 0.22 \$/bbl	PPC 2017: - 2018: 0.18 \$/bbl 2019F: 0.17 \$/bbl	Cat. Cooler 2018: - 2019F: 0.3 \$/bbl	2017: 1.54\$ 2018: 2.56\$ 2019F: 2.79\$
2016	2017	2019			

Benefit to GIM
Unit: \$ per bbl

UHV Project



Gasoline Max. Project



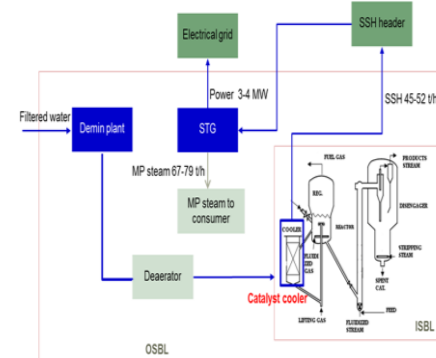
PP Expansion Project (PPE)



PP compound & specialties (PPC)



Catalyst Cooler Project





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IRPC Strategic Roadmap to 2020

Power of Growth, Power of Digital & Power of People: "GDP"



BIG

Revenue Growth : 5%
EBITDA Growth : 10%



STRONG

1st Quartile ROIC in Petroleum
and Petrochemical Industry



LONG

Member of DJSI Emerging
Markets Universe



- Operational Efficiency Improvement
- Asset Utilization Enhancement
- Product and Service Improvement
- Capacity and Products Expansion

Other Projects Completion

Capacity	Before	After
CHP I		
• Electricity	108 MW	307 MW
• Steam	200 T/hr	664 T/hr
PRP	312 KTA	412 KTA
EBSM	200 KTA	260 KTA



Margin Improvement



- Operational Excellence
- Commercial Excellence
- Procurement & HR Excellence

Benefit +135 MUSD



Incremental Margin and Organization Health

- Capability Building
- Owner mindset & Performance Orientation
- Cultural Changes

Capacity	Before	After
Propylene (UHV)	412 KTA	732 KTA

Fully Integrated PP

Capacity	Before	After
PP (PPE&PPC)	475 KTA	775 KTA



G Power of Growth

D Power of Digital

P Power of People

2020
ROIC 14%

2010

2014

2016

2018



GDP: From Aspiration to Execution

Power Three : 3 Pillars for achieve Top Quartile in 2020

Power of Growth



MARS

Maximum aromatics for competitiveness



100 MUSD

Everest forever for sustainable growth



100 MUSD

Growth by M&A



Drive R&D excellence

Power of Digital



IRPC 4.0

100 MUSD

OPS 4.0
Smart Operation (AI)

ISC 4.0
Integrated Supply Chain

CCM 4.0
Customer Centric Digital

PRO 4.0
Lean procurement

ERP 4.0
ERP Transformation

Power of People



Truly embed and live the **IRPC DNA**



Develop next generation of **Top 30 leaders**

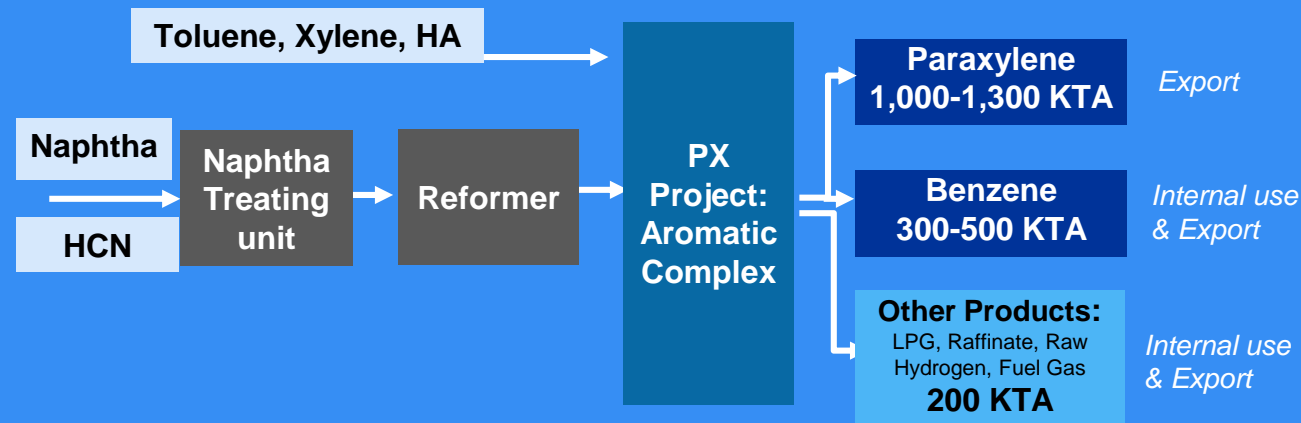


Continue to establish lean, fit-for-purpose **organization**

Maximum Aromatics Project : MARS

To increase Petrochemical Yield

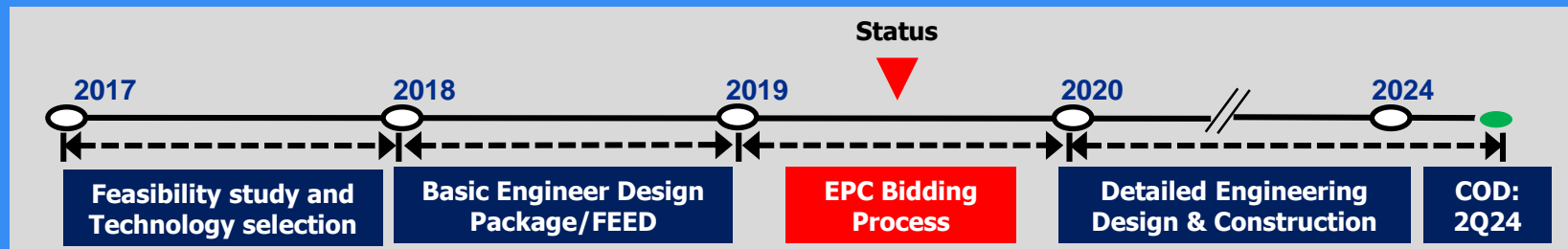
CAPEX: \$1.1 bn - \$1.3 bn IRR 14%-16%



Key Rational

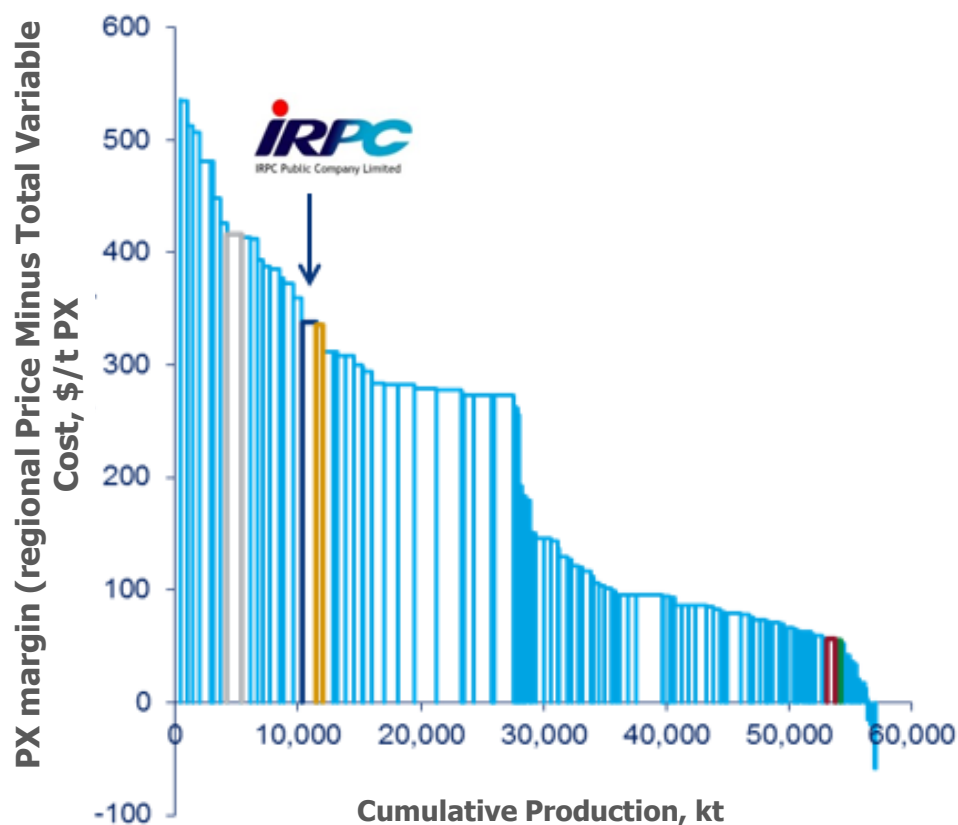
- Utilize excess Naphtha /Toluene/Xylene as feedstock to maximize PX and BZ products
- Cost competitiveness thru new technology
- Affirmed PX demand growth:
CAGR: 4% - 5%

Existing + UHV Petrochemical Yield 17% >> Petrochemical Yield 27%

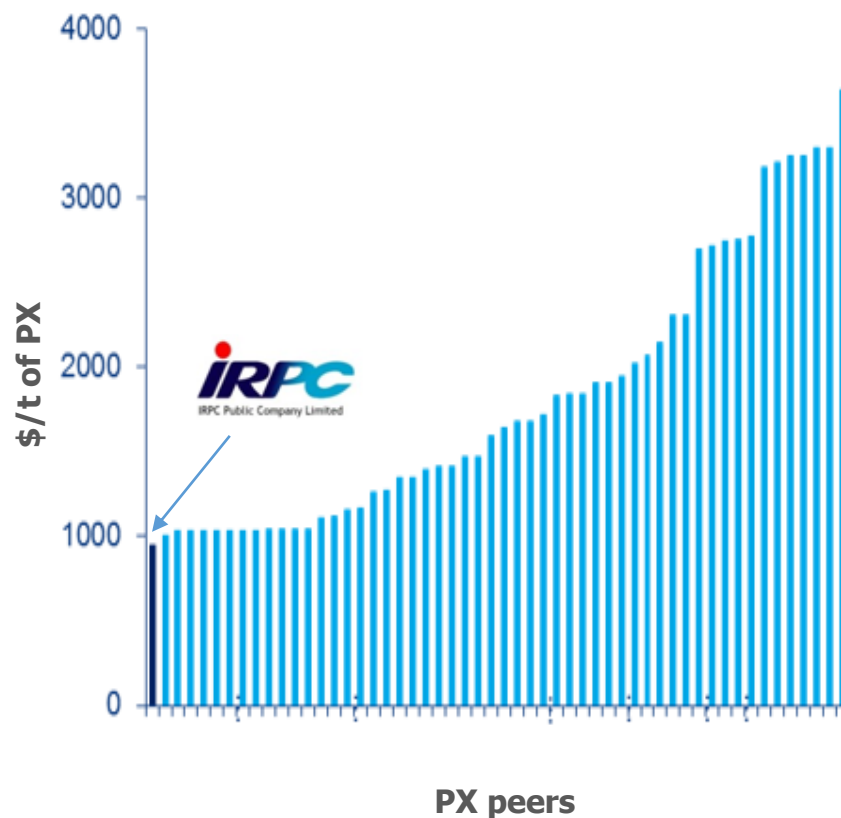


Paraxylene competitiveness in global top 25%

**Production Global Margin Curve,
Mixed Calculation 2023**



**Raw Material Cost,
Northeast Asia/Southeast Asia + Middle East,
Mixed Calculation 2023**



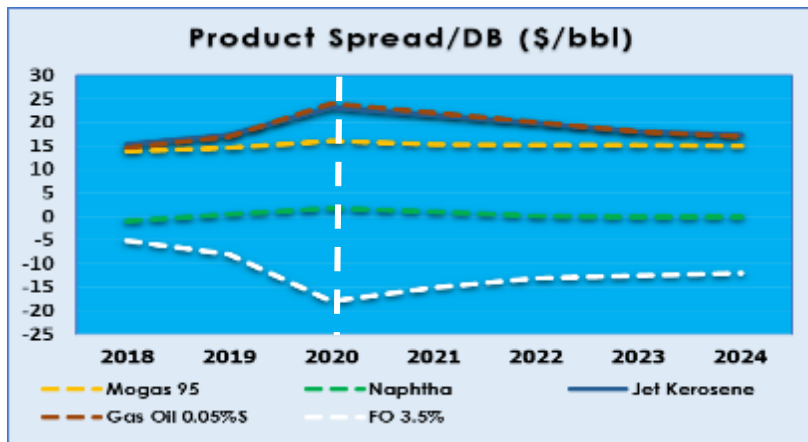
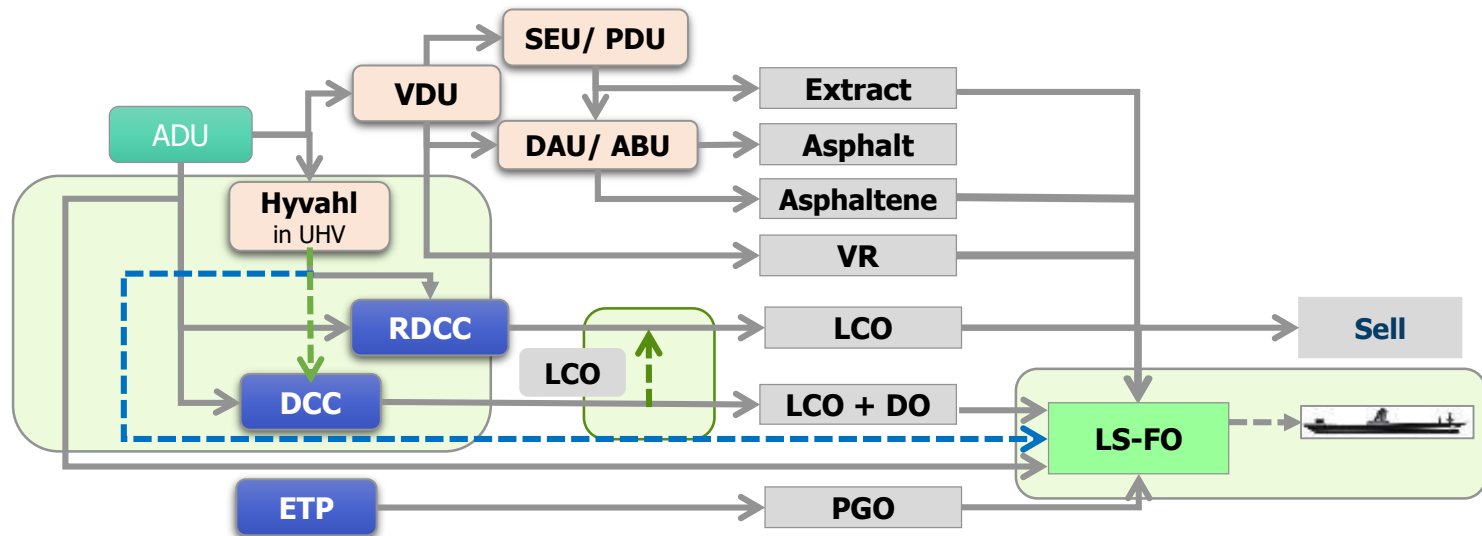
Source : Wood Mackenzie Chemicals, November 2018

E4E : Initiatives project

Capture more benefit thru LSFO project

G

Low Sulfur Fuel Oil Project



- ☐ **CAPEX** : ~3MUSD (modify pipeline)
- ☐ **Production** : ~ 40-60 KT per month
- ☐ **Margin improved** : ~ 0.45\$/bbl or ~40 MUSD per year
- ☐ **MC** : End of May 2019
- ☐ **First Shipment** : July 2019
- ☐ **Targeted Year** : Y2020 & Y2021

M&A under "Galaxy" project

Investment in plastic product E-commerce business

G

Benefit



New market and distribution

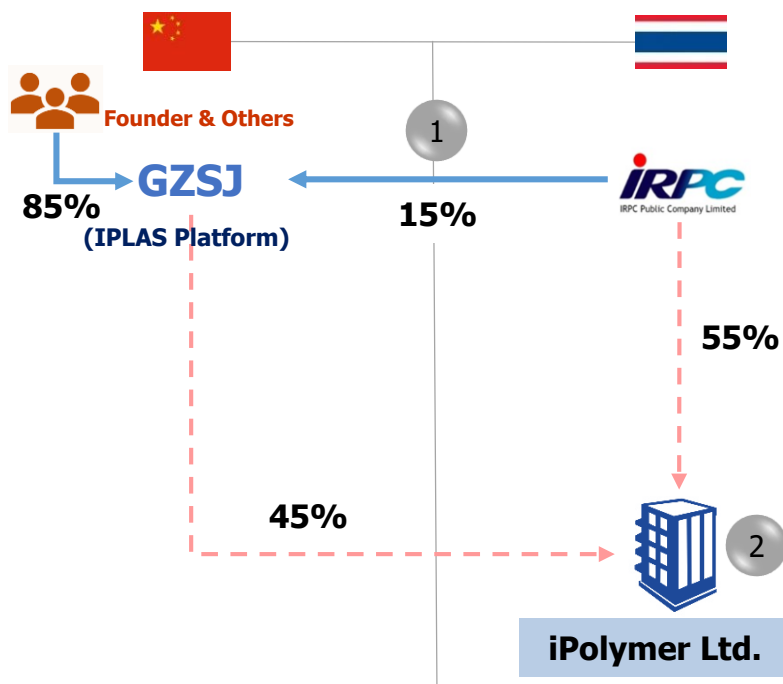


Leverage know-how



Big data analytic

Shareholding Structure



E-commerce Platform : one stop service provider



Provide **market place** for supplier and buyer focusing in SME



Service **logistic** as option for buyers and be included in prices



Service **credit term** thru interest charged in prices



Provide **Technical service solution** by the experts

1

E-commerce Platform – in China

- **Company:** Guangzhao Saiju Performance Polymer Ltd (GZSJ), China
- **Business:** E-commerce platform for variety of plastic products under "IPLAS" platform
- **Website:** www.isuwang.com & www.suwen8.com
- **Investment size:** ~ 650 MB
- **Status:** Approved to be a new shareholder by MOC. in May 2019 and MIIT. in July 2019

2

E-commerce Platform – in Thailand

- **Company:** iPolymer Company Limited
- **Business:** E-commerce platform in Thailand focusing in plastic and chemical products
- **Website:** www.plastket.com
- **Investment size:** ~ 120 MB
- **Status:** Fully paid-up capital in Aug 2019

M&A under "Galaxy" project

JV with WHA

G

WHA Industrial Estate Rayong

➤ Objective:

- ☐ Develop and operate industrial estate
- ☐ To monetize Ban Khai assets
- ☐ Focus on "Strategic SME for EEC"

➤ Incorporate the joint venture company, named

"WHA Industrial Estate Rayong Co.,Ltd."

➤ Total land area: ~ 2,152 Rais

➤ Location: Ban Khai District, Rayong

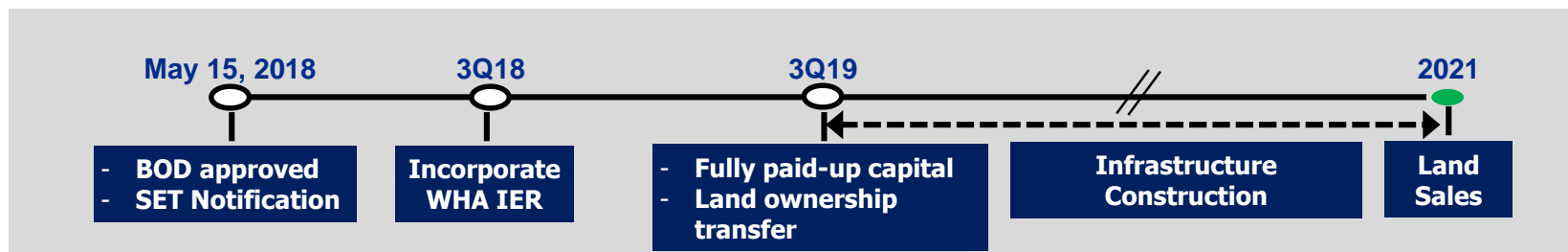
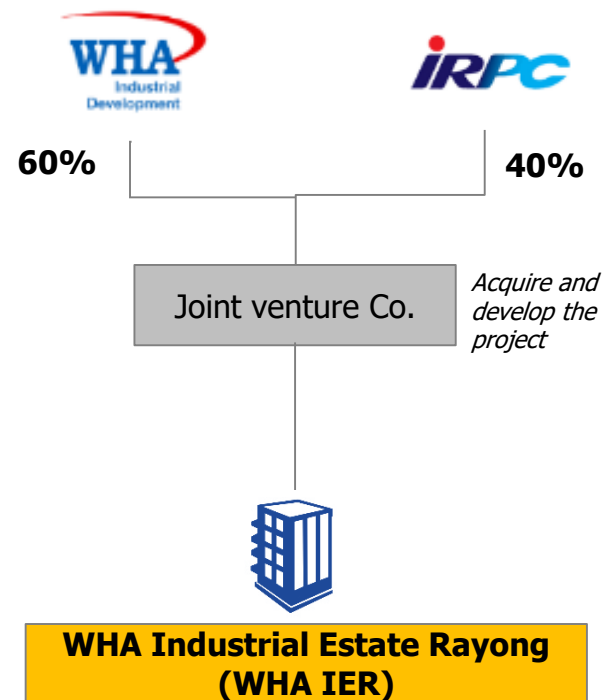
➤ Registered capital: 650 MB

➤ IRR: 12.5%

➤ Progress:

- ☐ Fully Paid-up capital in 3Q19
- ☐ Land ownership transfer to WHA IER in 3Q19

Shareholding Structure



Floating Solar Pontoon

G

Make **Specialty** Materials for Niche Market to enhance **Performance**

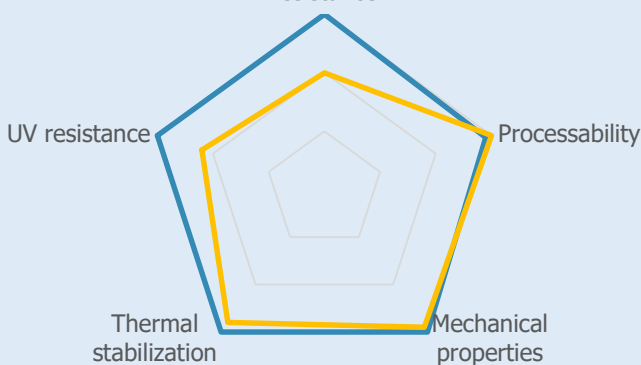
Material

POLIMAXX



POLIMAXX P301GR HDPE

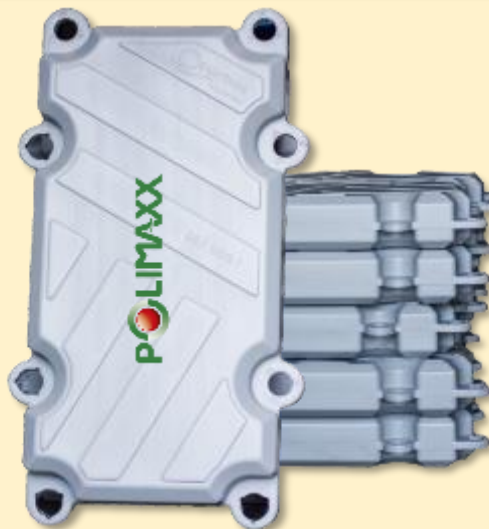
Chemical
resistance



— IRPC Floating HDPE

— Conventional HDPE

Application



Floating Solar Pontoon



**Less heat absorption than
black objects**



**Increase efficiency of
solar PV panel (overall
power)**

Projects

**IRPC Floating Solar Power at
Rayong Site**



12.5 MW



Under Construction Projects

Customer: Suntura



5.1 MW

Material

POLIMAXX



High weather resistance



Good UV resistance



High mechanical property

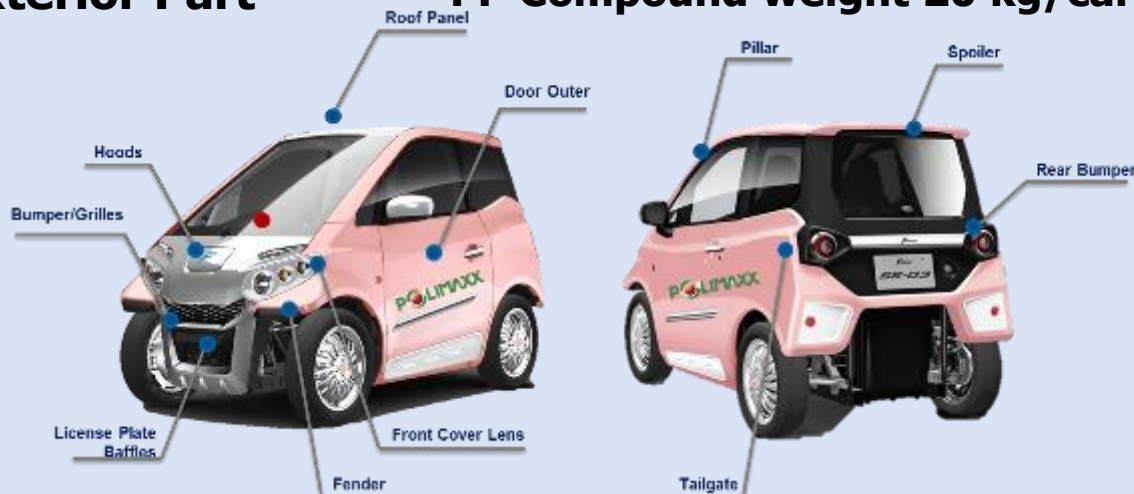


Good processability

Application

Exterior Part

PP Compound weight 20 kg/car



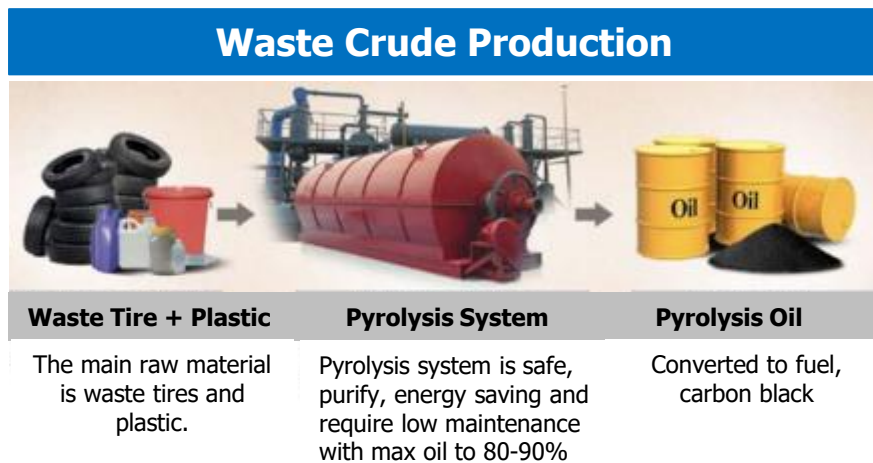
Interior Part

PP Compound weight 4 kg/car

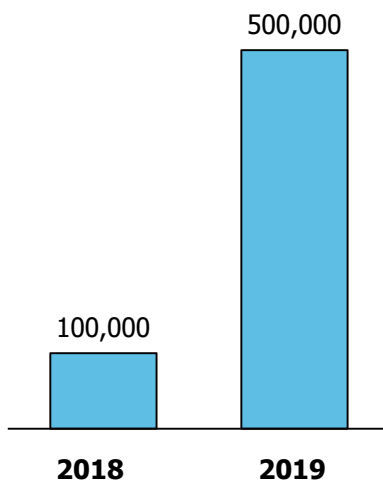


Waste Oil Management – green feed stocks

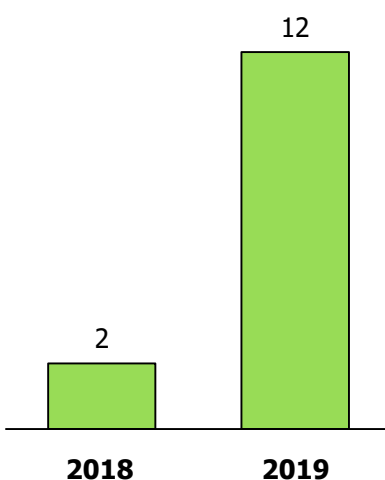
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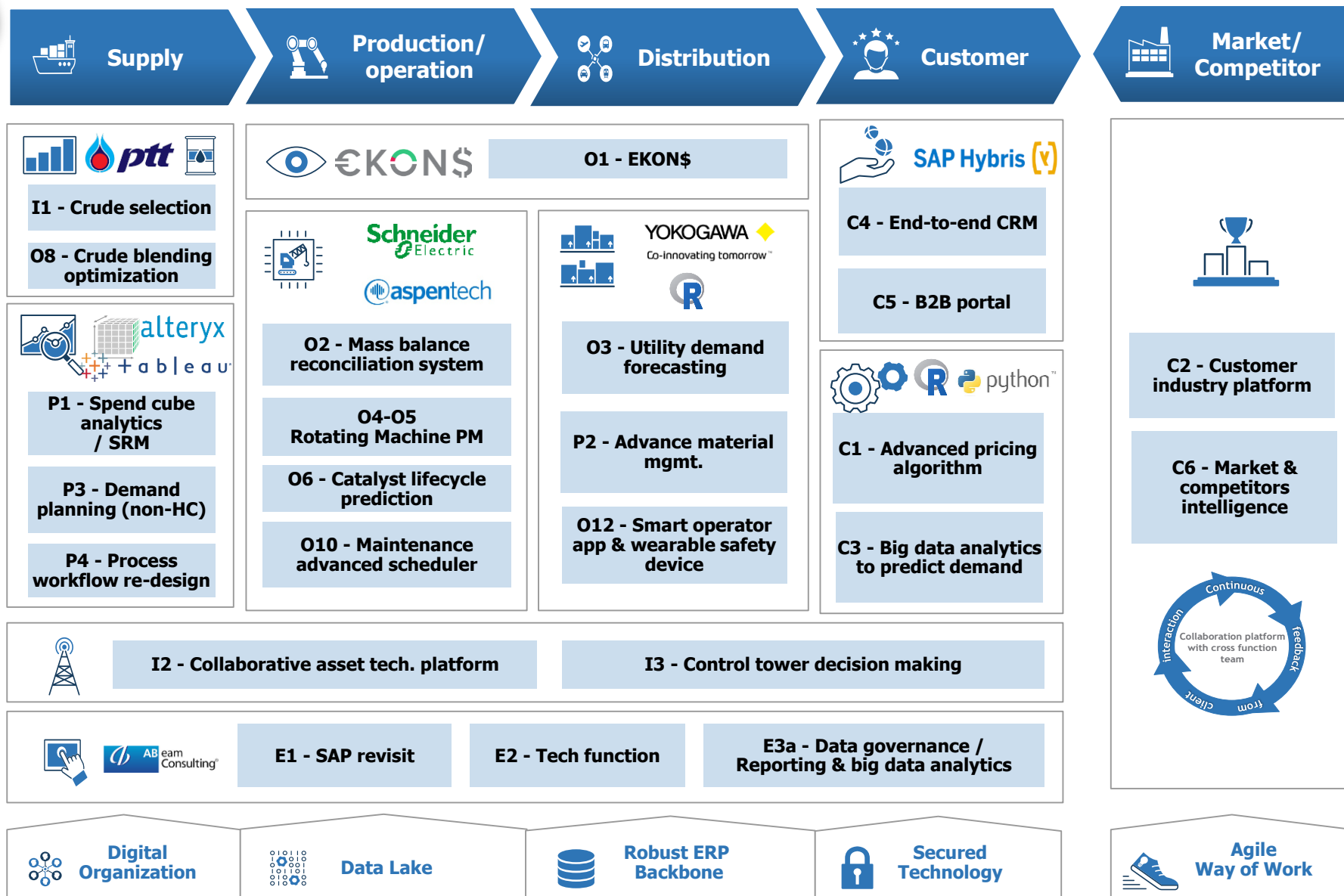


Waste Crude Volume, Liter/Month



Benefit, MB/ Year





D

Target



Digital passive

DAI: Digital Assessment Index >>



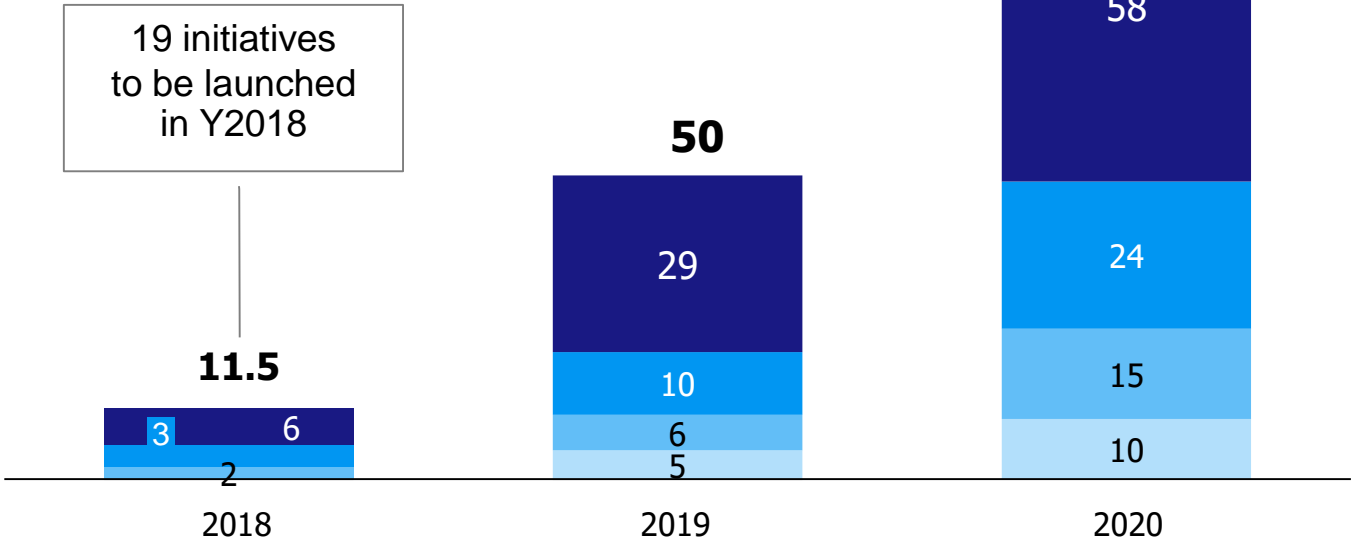
Digital leader



'Improve DAI to be digital leader'

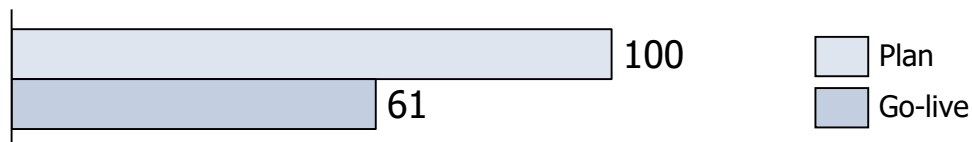
≥ 100

Unit: MUSD

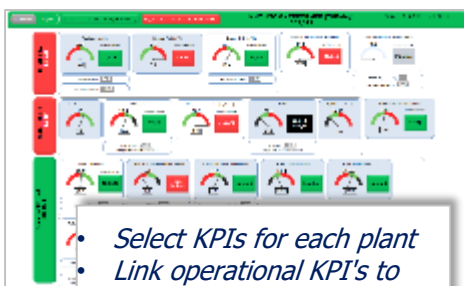




Overall project is on plan, 60% of initiatives on launched



A tool optimizes key economics through refinery & petrochemical operations



- Select KPIs for each plant
- Link operational KPI's to cash
- Set limits and targets
- Display real-time information
- Clear visualization

Pricing Algorithm

Predictive analytics engine to optimize on price and volume sold to customers



Key updates:

Algorithm & frontend developed and fully tested in market
Handover from vendor for frontend completed for customer



Assessing spending tool - on what you are buying, who is buying it and from whom



Key updates:

Empower the team to drive benefit through various change management program

Control Tower

End-to-end visualization dashboard to enhance decision making across value chain



Key updates:

Working closely with data owner to prepare backend integration
Executive dashboard to leverage on selective operational use cases



Timeline :
Completed in Jun-19



Timeline :
Completed in May-19



Timeline :
Completed in 2Q19



Timeline :
Go-live in 4Q19

P



Following orders



Individual Ownership

Process-oriented



Result-Oriented

Promise but delay



Promise and Deliver

Business as usual



Continuous Improvement

Silo-based



Do Things Together

Biased reward



No Bias

Too many commentators



Actively Solve The Problem



Agenda



Company Profile



Performance Highlight



Projects Update



Strategic Direction



Industry Outlook



Appendix

- Dividend Payment
- CAPEX Plan
- Financial Position
- Financial Performance
- History
- Turnaround Plan 2019



Key Products	Price (2Q19)	Spread (2Q19)
Refinery	(\$/bbl)	(\$/bbl)
Dubai	67.36	
ULG 95	74.8	7.5
Gas Oil	79.7	12.4
FO	65.0	(2.3)
Polymer	(\$/T)	(\$/T)
PP	1,133	592
HDPE (Pipe)	1,219	678
PS	1,304	763
ABS	1,496	955

2H19 outlook :

Crude Oil



ULG 95



GAS Oil



FO



PP



HDPE (Pipe)



PS



ABS



Petroleum

- + The U.S. sanctions on Iranian's and Venezuela's crude.
- + Crude Shipping industry grapples with threat in Strait of Hormuz
- + OPEC & non-OPEC allies agreed to continue production cuts until the end of Mar 20.
 - Worries about weakening global economic growth, triggered by trade frictions between United States and its trading partners.
 - High U.S. crude oil production and Export volume remain high level.

- + Peak demand in U.S. ahead of driving season
- + Low supply due to FCC feedstock bypassed to produce LSFO instead.
- + Prompt demand from U.S. as PES was permanent S/D after fire.
 - Slowing momentum in China's demand driven by new energy vehicles, fuel efficiency improvements and license plate restriction in the major cities.

- + Strong Demand in preparation for the IMO implementation
 - The ramp-up new refinery will make China's domestic gasoil surplus, China's export is expected to maintain at high levels

- + Higher demand for power generation during summer in Middle East.
 - Less bunker oil demand due to specification change by IMO .

Petrochemical

- + Chinese manufacturing season in 3Q19
 - Surge supply from Malaysian new capacity.
 - Rainy season causes demand drop in some segments

- Weak demand during rainy and winter season.
- The U.S. – China trade war tension will deteriorated construction demand

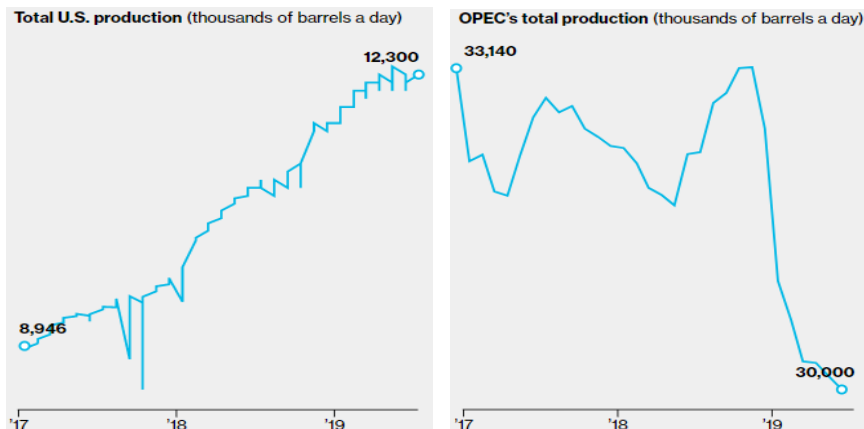
- + Replenishing stocks in 3Q19 ahead of manufacturing season in China.
- + Demand will be recover in 4Q19 after transplant of Japanese automotive from China to Vietnam
 - Packaging demand slowdown from alternative and environmental concerns

- +The manufacturers of Electronic and Automotive in Asia have return to the market.
- + Demand will be recover in 4Q19 after transplant of Japanese automotive from China to Vietnam
 - The U.S. – China trade deal.

Crude Oil Outlook

U.S. Crude & OPEC's Crude

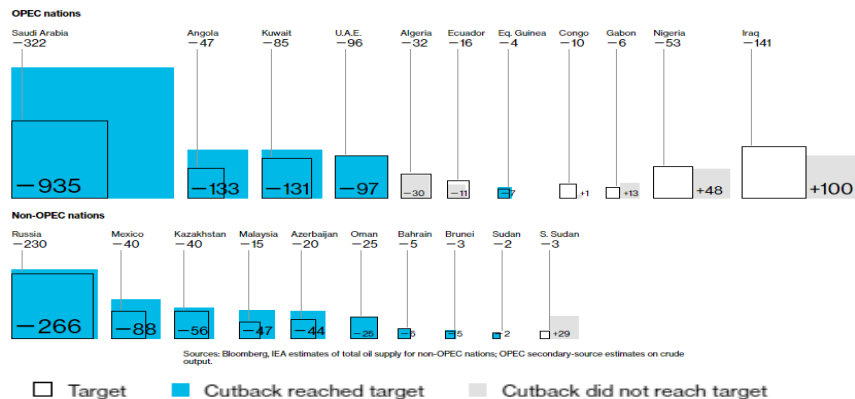
Surging U.S. crude oil production will offset OPEC's output cuts



Source : Bloomberg, U.S. Energy Information Administration

OPEC+ reach its target of production cut by 1.7 MBD (142%) in July 2019.

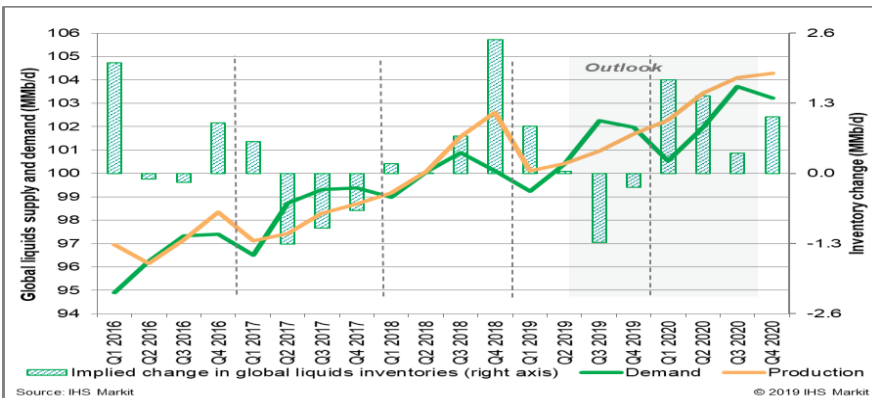
Led by Saudi Arabia, Russia, Angola ,Kuwait and U.A.E



Source : Bloomberg, August 2019

World oil production and consumption balance

Global oil inventories will decline by 0.2 million b/d in 2019

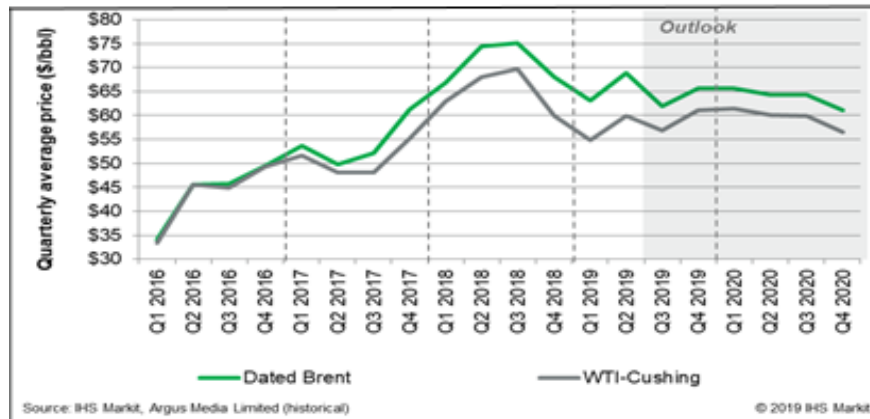


Source: IHS Markit

© 2019 IHS Markit

Brent Crude Oil prices to average 65\$/bbl in 2019

Brent prices to be in the 60 \$/bbl till August, before heading to 66 \$/bbl by year-end



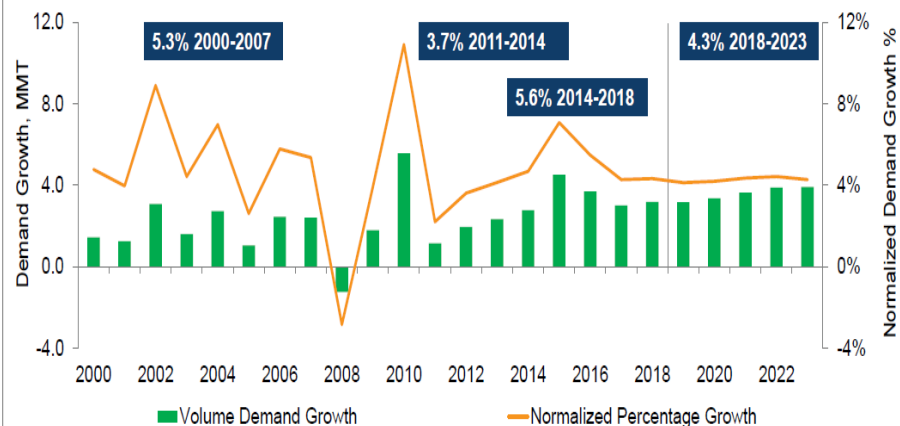
Source: IHS Markit, Argus Media Limited (historical)

© 2019 IHS Markit

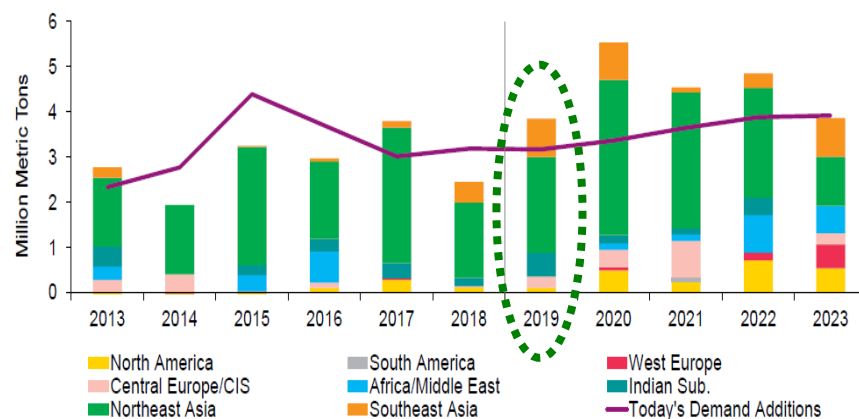
Petrochemical Outlook

Polypropylene: Market return to balance

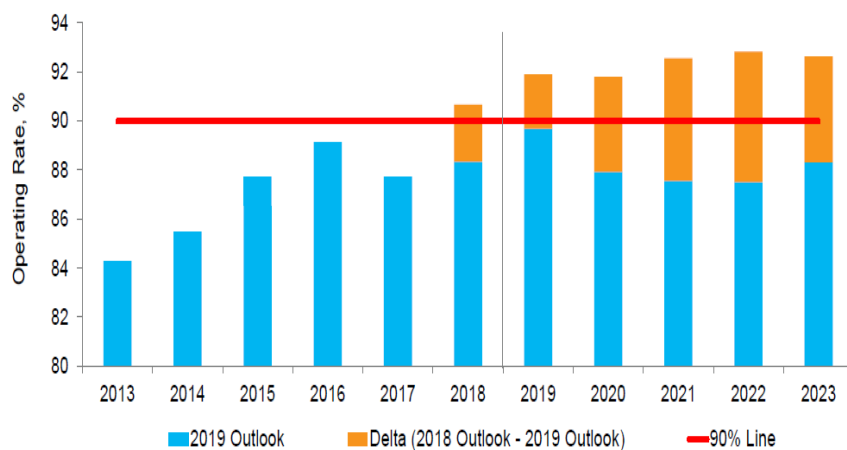
PP demand growth stays healthy above world GDP



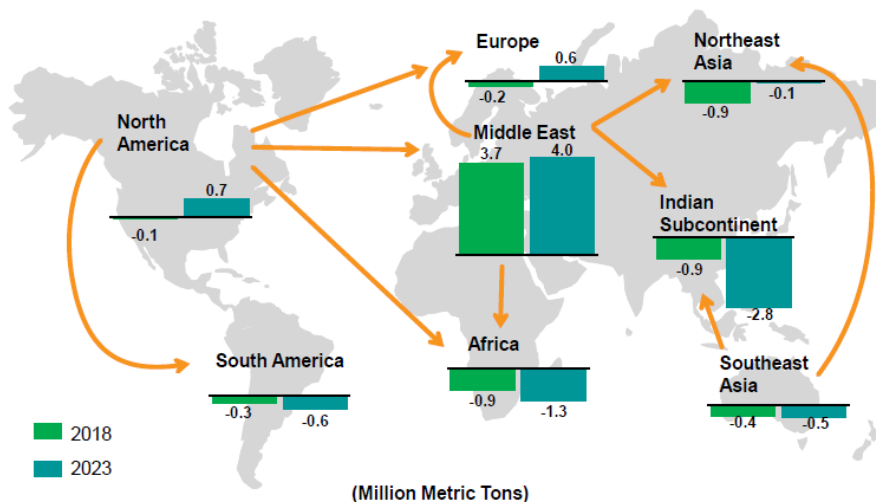
Addition capacity leading by China aim to reduce import



PP world operation rates return to balance



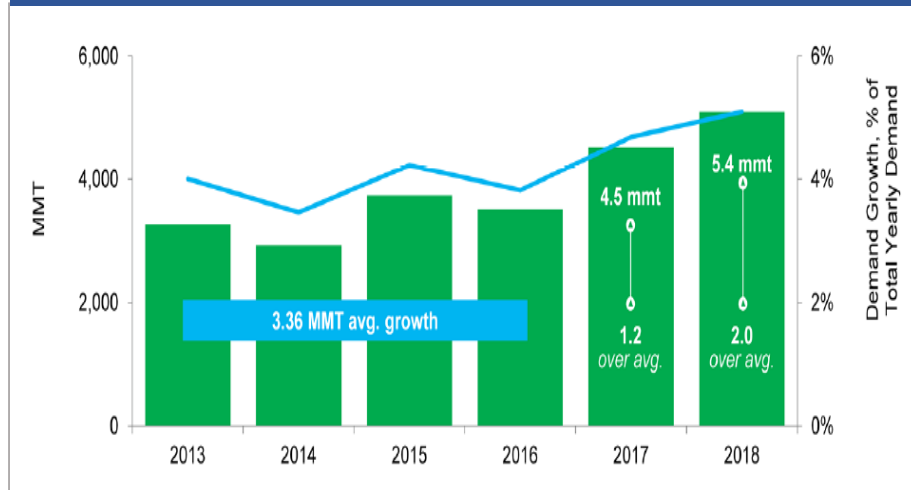
Indian Sub. Forecast to be the largest PP Net Importer by 2023



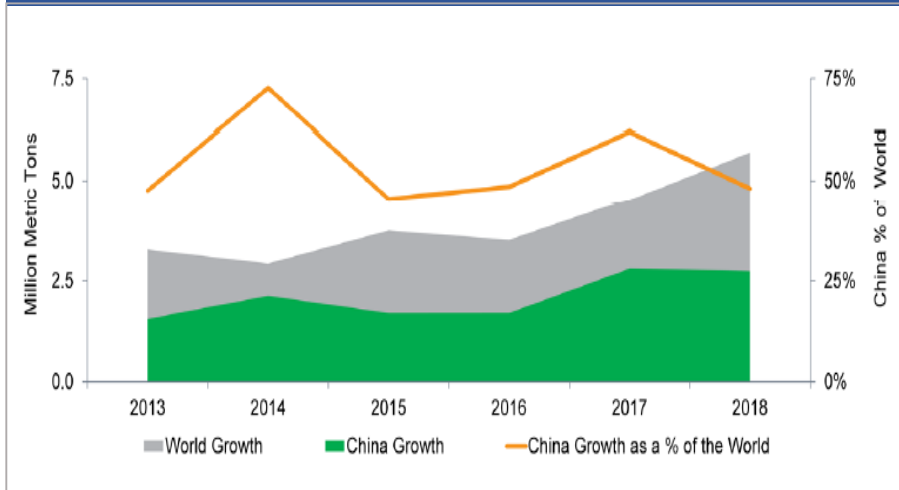
Petrochemical Outlook

HDPE : Utilization rate reach the highest level in 2019

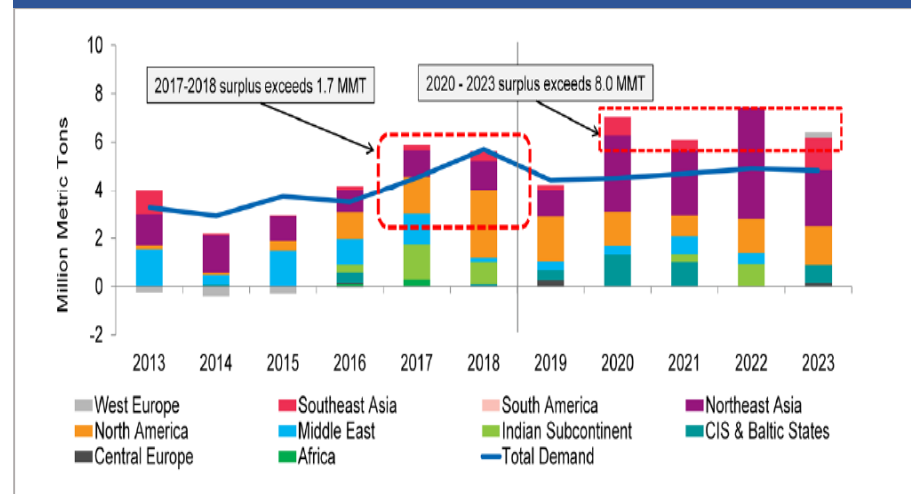
Global PE demand growth stays above average growth



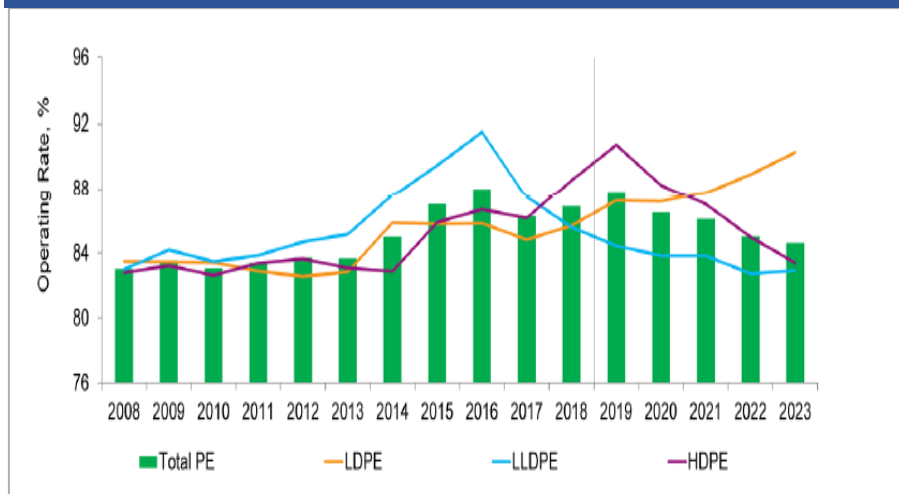
China drives global Polyethylene demand growth



Surplus Polyethylene after 2019



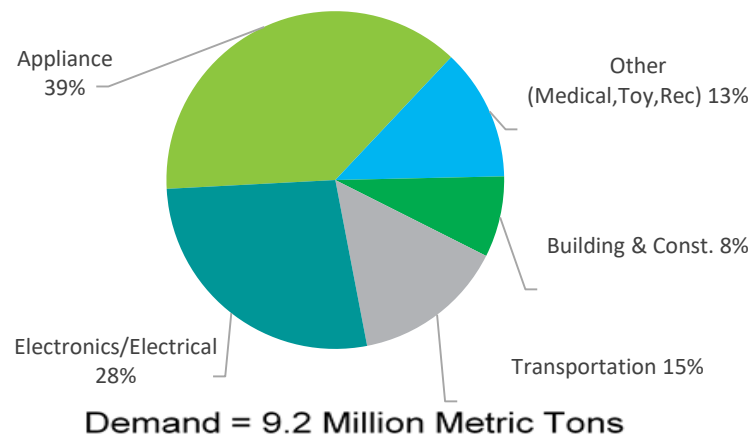
HDPE operating rate hit the highest level in 2019



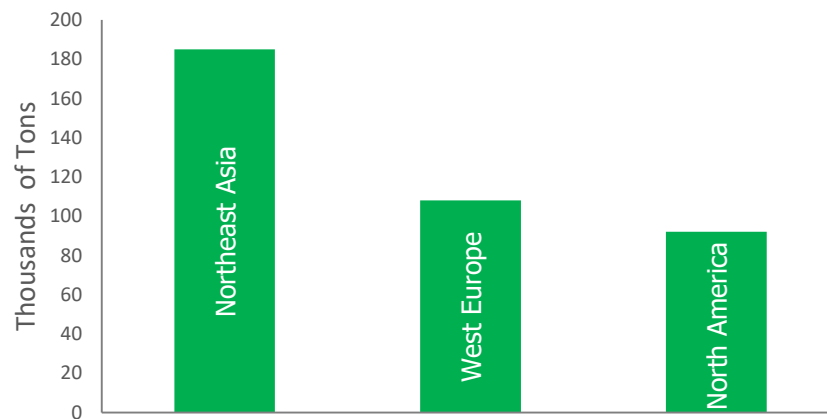
Petrochemical Outlook

ABS : Moderate demand growth with low capacity addition

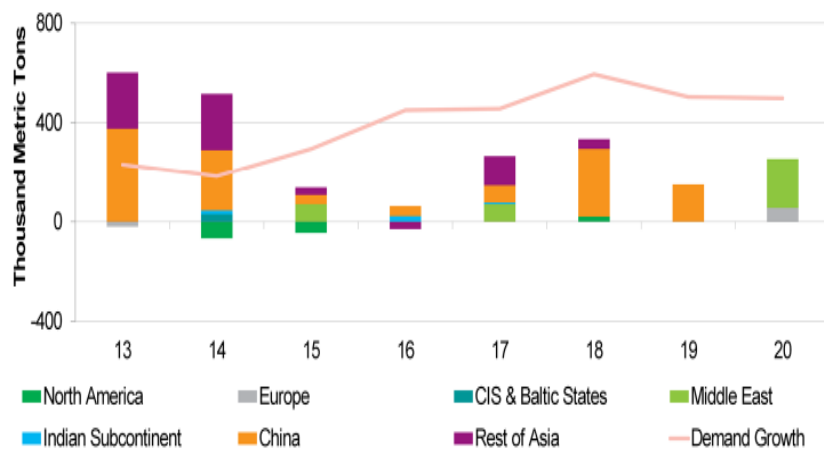
2019 Global market segmentation



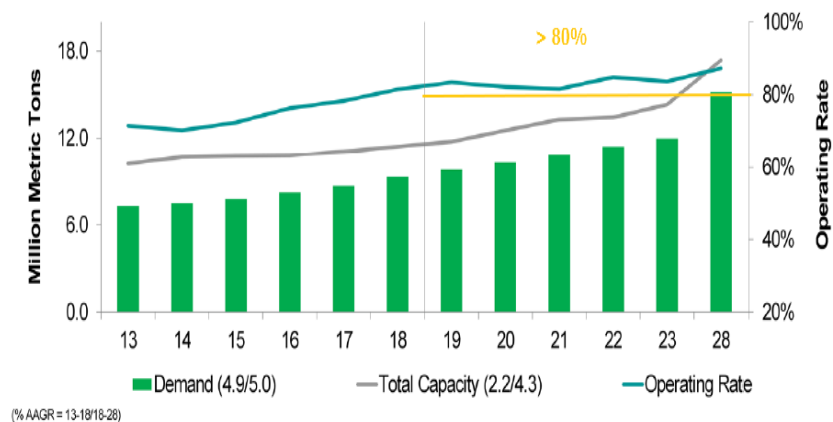
Average ABS plant capacity by region



ABS demand catch up to additional capacity



High operating rates required to meet demand

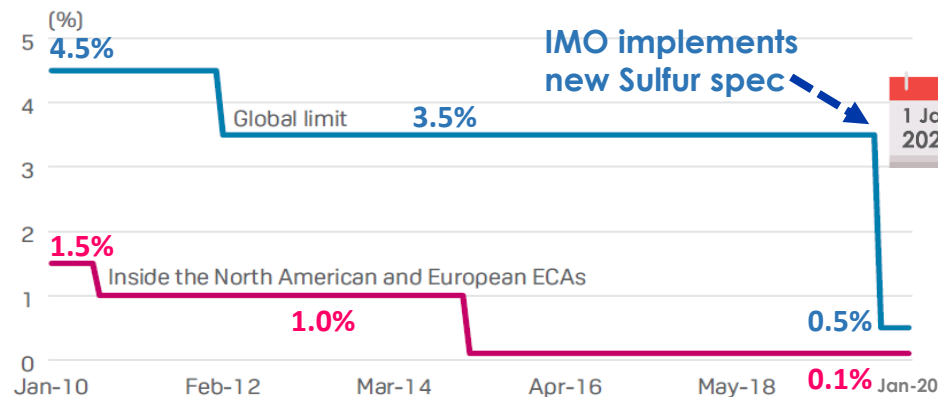


Refinery Regulation Concern

IMO regulations to start in 2020 which benefit to LS refinery as IRPC

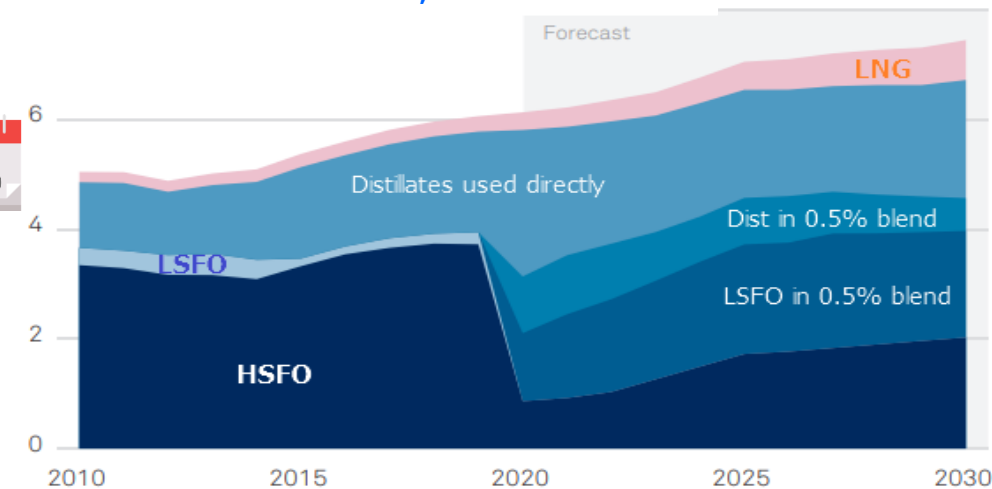
Timeline of changes in Sulfur Emission Regulation

IMO to cut global SF limits from marine fuels : 3.5% → 0.5%



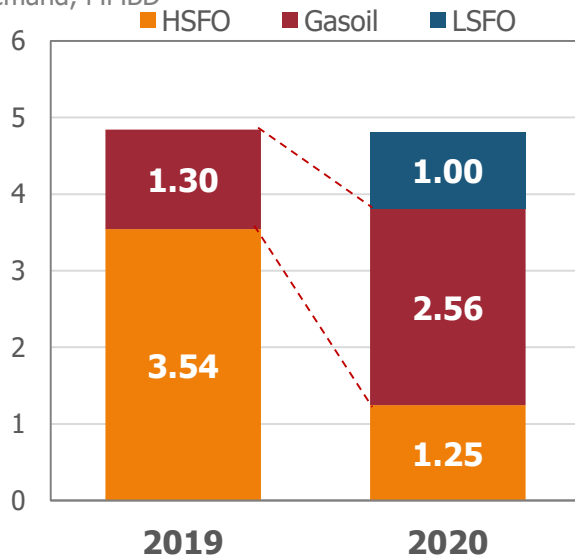
Source: IMO

Global Bunker Fuel Demand, MMBD



Source: S&P Global Platts Analytics

Global Bunker Demand, MMBD



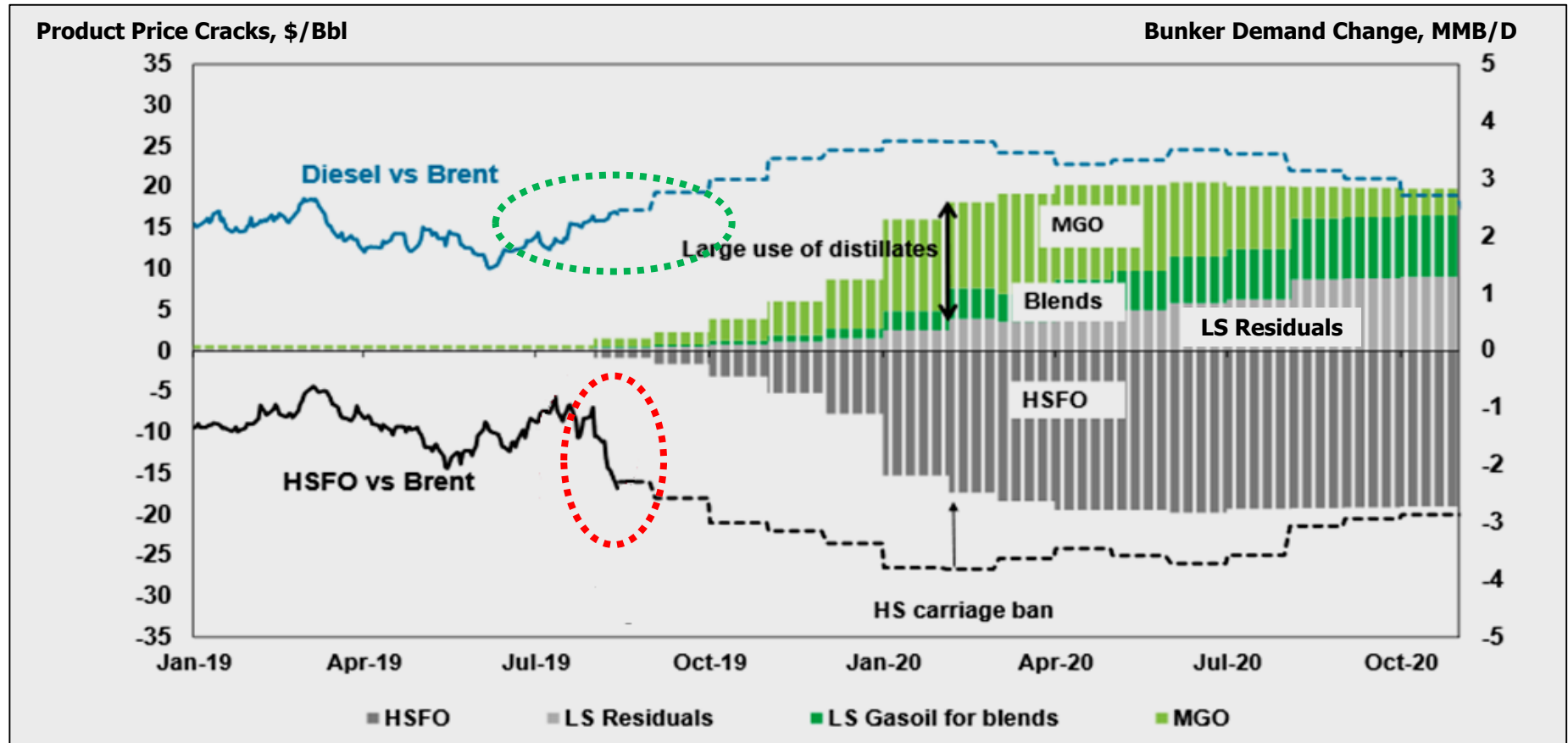
Source: FGE's Flash Alert 2 Feb' 18

Consequence effects

- Demand of gasoil for marine bunker blending support gasoil spread,
- It is expected gasoil-FO spread will increase from 15-18\$/bbl to 35-40\$/bbl
- Though, lower fuel oil price bring back power generation demand
- Higher gasoil price and lower fuel oil price support light crude demand and push Dated/Dubai spread from 2\$/bbl to 7\$/bbl

Positive impact from IMO

IMO 2020 is now starting to affect markets



Source: S&P Global Platts Analytics, Aug 2019

- ❑ IMO has started to drive HSFO spread lower, it will fall further when demand fully shifts to LSFO
- ❑ The distillate cracks are expected to gradually increase. They will spike once MGO demand pick up
- ❑ Gasoil – HSFO spread will increase significantly after new IMO spec change fully implemented



Agenda



Company Profile



Performance Highlight



Projects Update



Strategic Direction



Industry Outlook



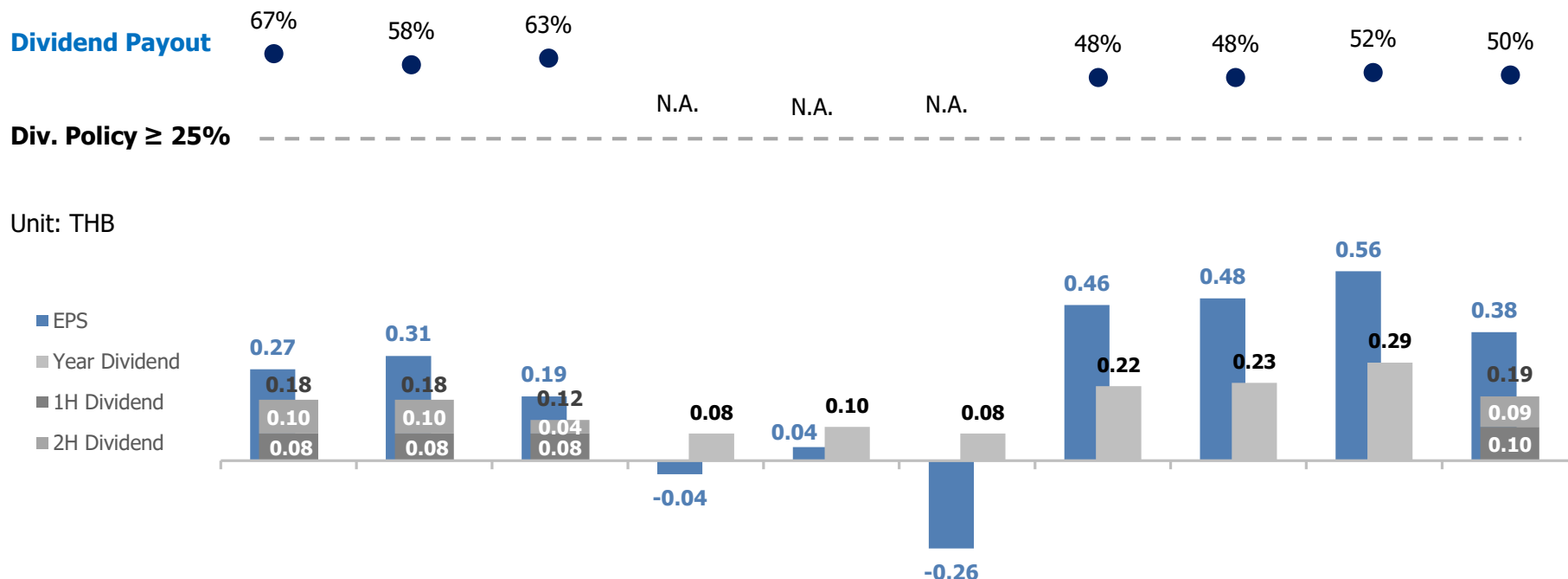
Appendix

- Dividend Payment
- CAPEX Plan
- Financial Position
- Financial Performance
- History
- Turnaround Plan 2019

Dividend Policy & Payment

IRPC is firmly committed to pay dividend at no less than 25% of net income

IRPC pay at 48-67% payout ratio with average dividend yield of 3.5%



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Dividend Yield	4.1%	2.8%	2.9%	1.9%	3.1%	2.6%	5.1%	4.8%	4.1%	3.3%
Share Price ¹	4.38	6.50	4.08	4.12	3.26	3.06	4.30	4.80	7.05	5.75

Note: ¹ Closing price at the end of period

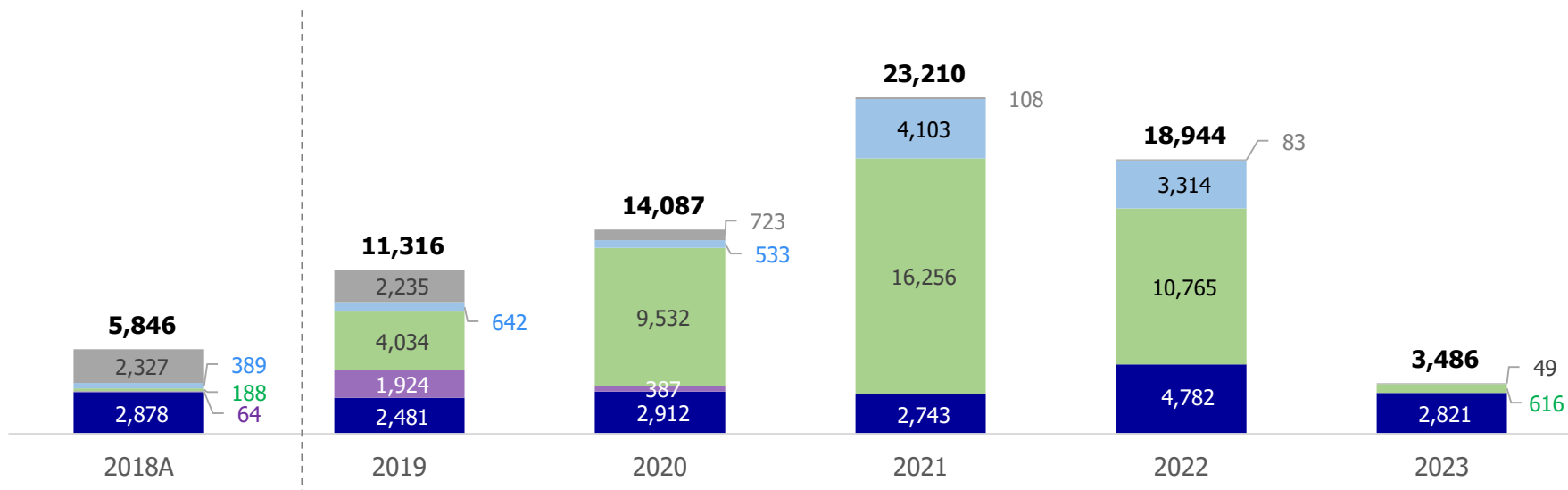
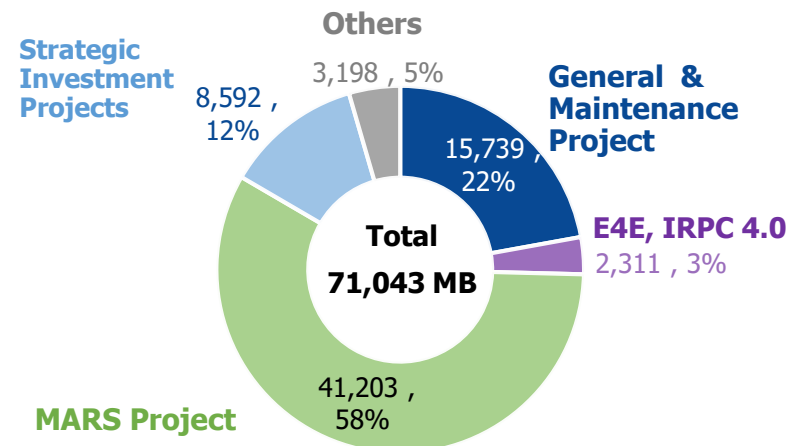
CAPEX Plan in 2019 – 2023

Bt 71 bn* committed CAPEX

Unit: MB

- General & Maintenance Project
- E4E, IRPC 4.0
- MARS project
- Strategic Investment Projects
- Others

IRPC 5 year CAPEX Plan

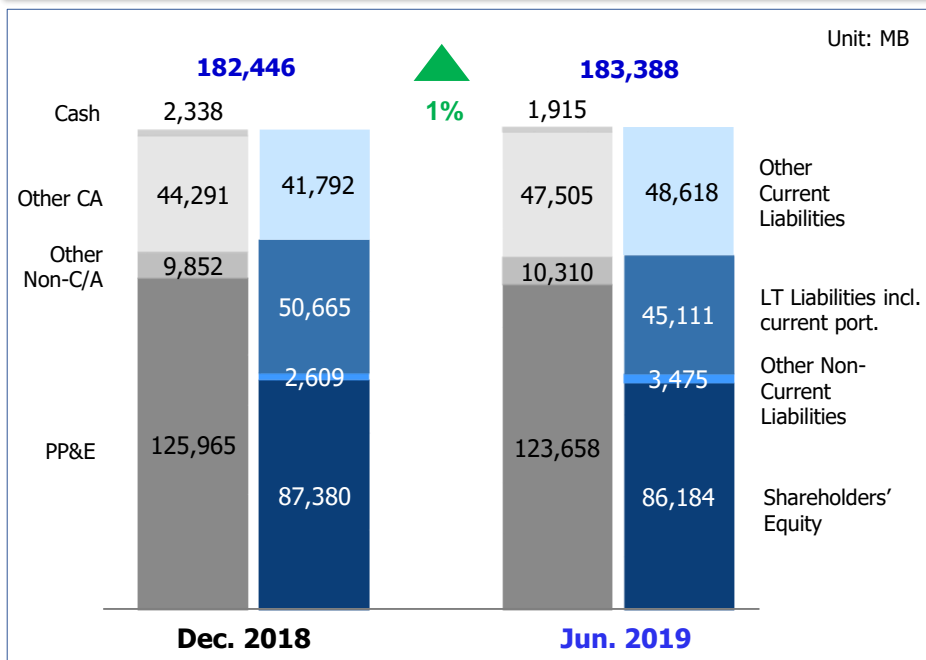


* Excluding capex for investment opportunities of Bt 34 bn

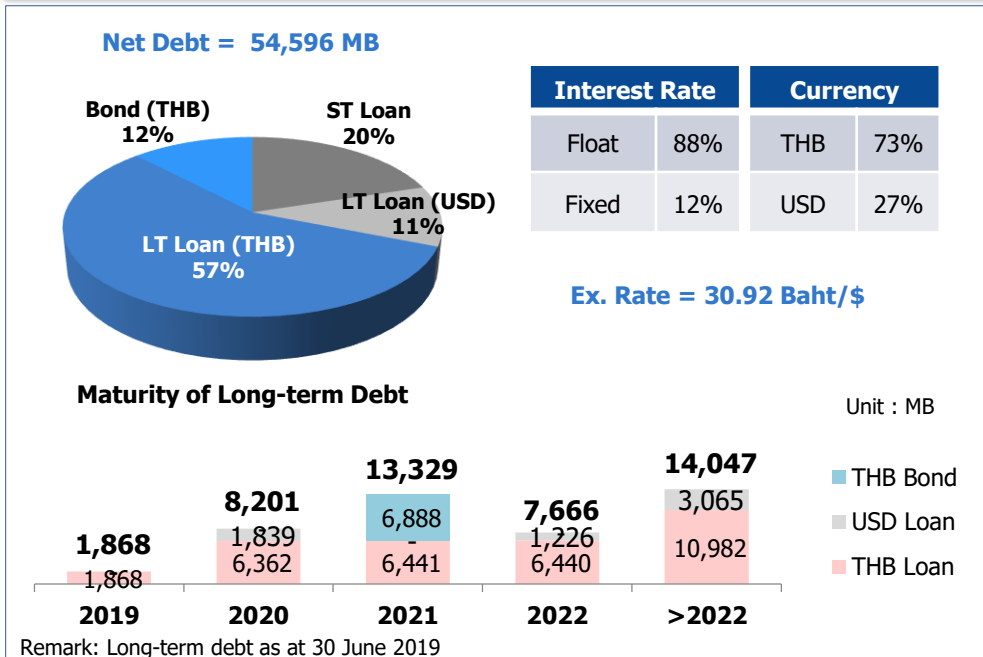
Financial Position

Net D/E dropped as a result of lower LT loan

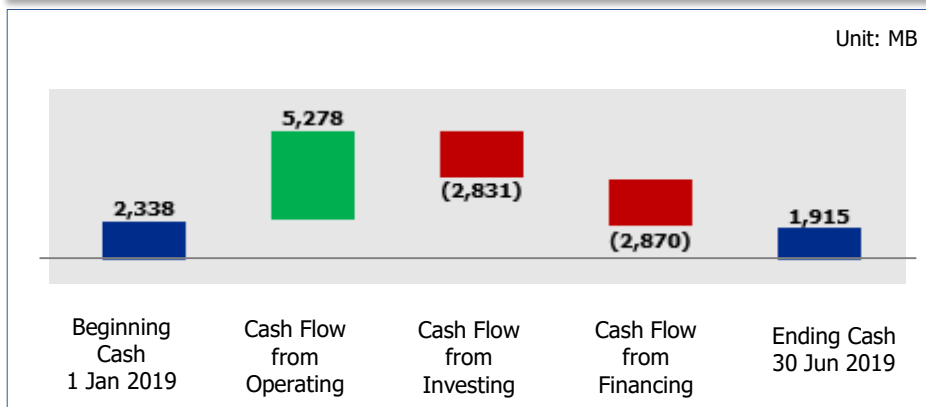
Statements of Financial Position



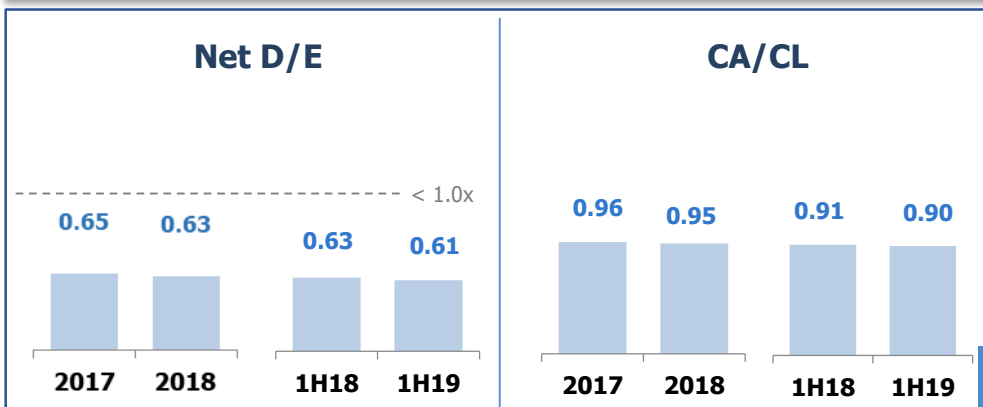
Debt Profile



Cash Flow



Financial Ratios



Refinery Spread

Naphtha - Dubai

\$/BBL

YoY – N/A
0.7

YoY – N/A

QoQ ▼ 21%



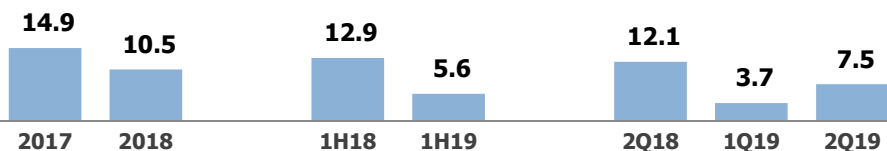
ULG 95 - Dubai

\$/BBL

YoY ▼ 30%

YoY ▼ 57%

QoQ ▲ 103%



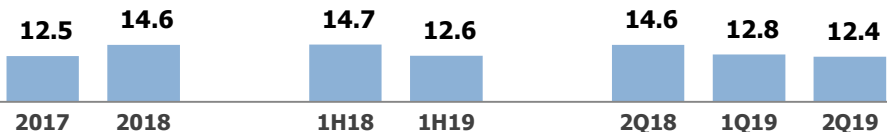
Gas oil - Dubai

\$/BBL

YoY ▲ 17%

YoY ▼ 14%

QoQ ▼ 3%



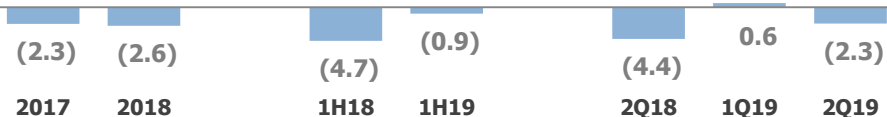
HSFO - Dubai

\$/BBL

YoY ▼ 13%

YoY ▲ 81%

QoQ – N/A



Lube Base Spread

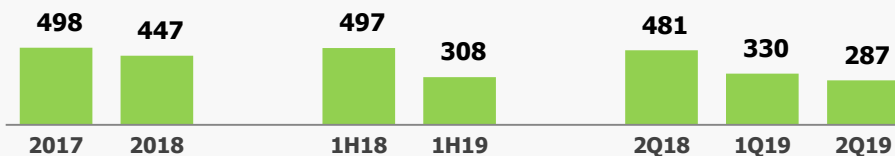
500SN – FO 180 3.5%S Spread

\$/TON

YoY ▼ 10%

YoY ▼ 38%

QoQ ▼ 13%



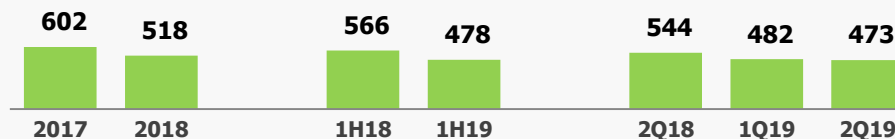
150 BS – FO 180 3.5%S Spread

\$/TON

YoY ▼ 14%

YoY ▼ 16%

QoQ ▼ 2%



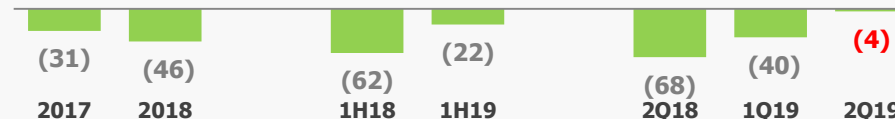
Asphalt – FO 180 3.5%S Spread

\$/TON

YoY ▼ 48%

YoY ▲ 65%

QoQ ▲ 90%

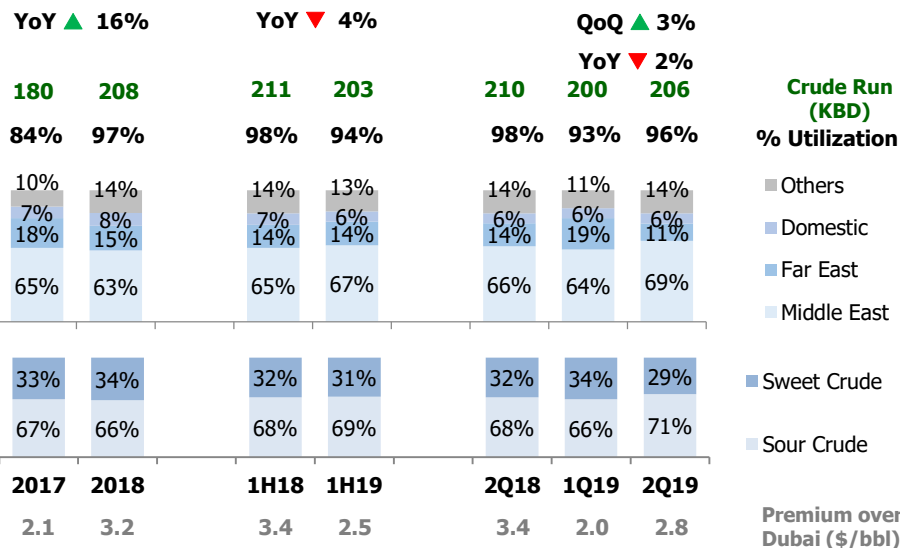


Petroleum Business

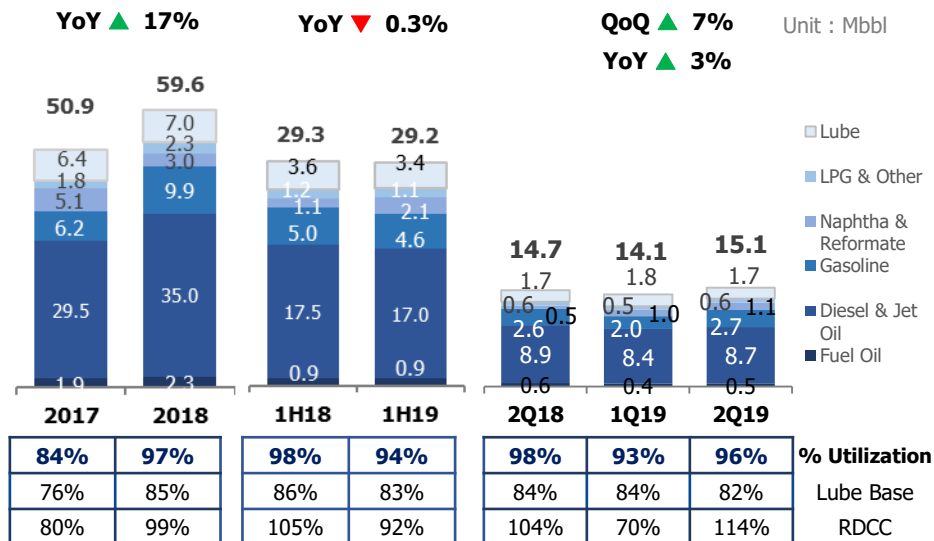
2018: Higher crude run after 2017 major turnaround

1H19 : Weaker products spread & RDCC planned shutdown led to lower GRM

Crude Intake

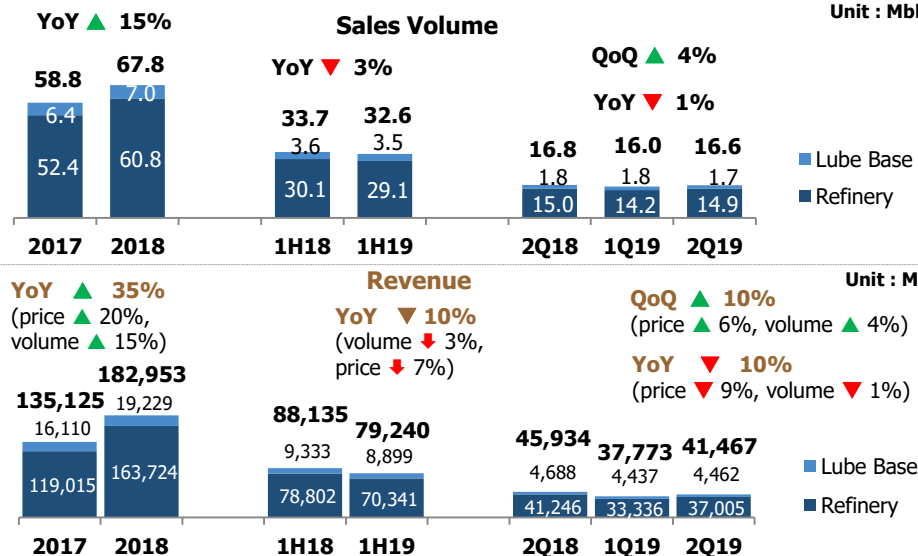


Refinery Production

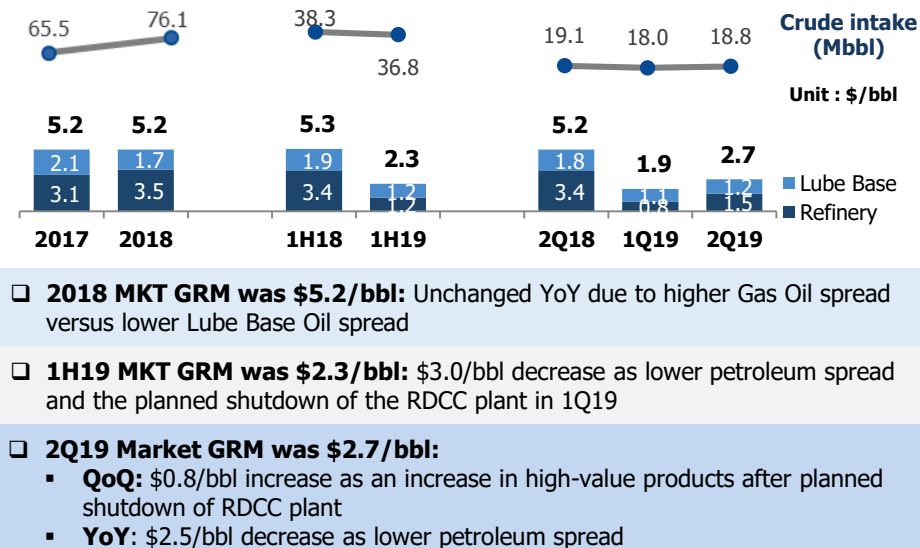


Sales Volume & Revenue

Unit : Mbbl



Market GRM



Petrochemical Spread

Olefins

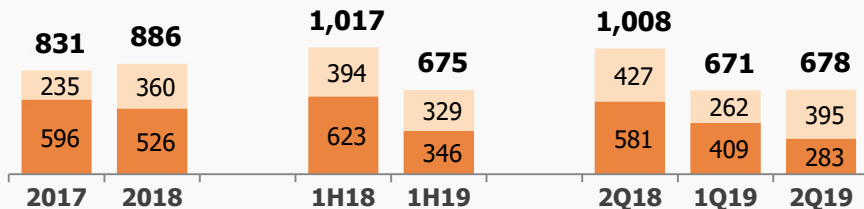
HDPE-Ethylene –Naphtha Spread

YoY ▲ 7%

YoY ▼ 34%

QoQ ▲ 1%

■ Ethylene-NP ■ HDPE-Ethylene



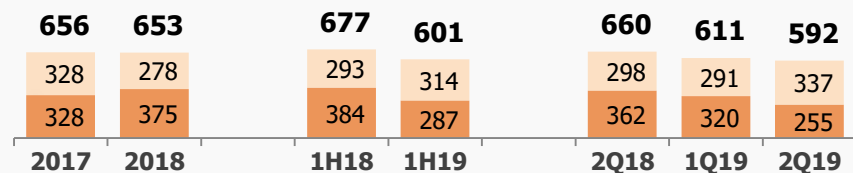
PP-Propylene –Naphtha Spread

YoY - Stable

YoY ▼ 11%

QoQ ▼ 3%

■ Propylene-NP ■ PP-Propylene



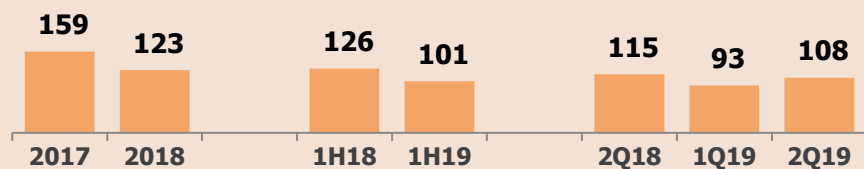
Aromatics

Toluene – Naphtha Spread

YoY ▼ 23%

YoY ▼ 20%

QoQ ▲ 16%

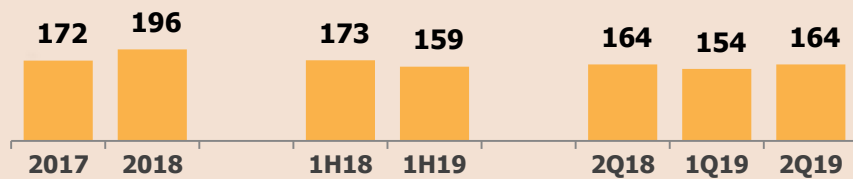


MX – Naphtha Spread

YoY ▲ 14%

YoY ▼ 8%

QoQ ▲ 6%



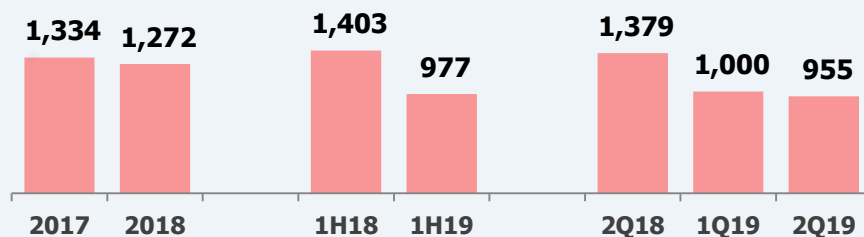
Styrenics

ABS –Naphtha Spread

YoY ▼ 5%

YoY ▼ 30%

QoQ ▼ 5%

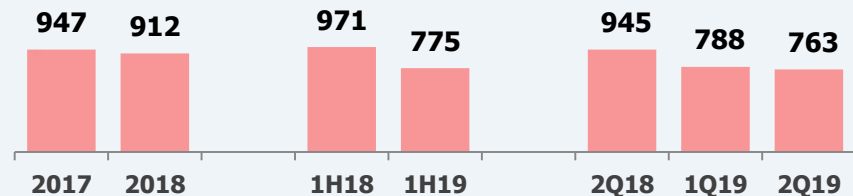


PS –Naphtha Spread

YoY ▼ 4%

YoY ▼ 20%

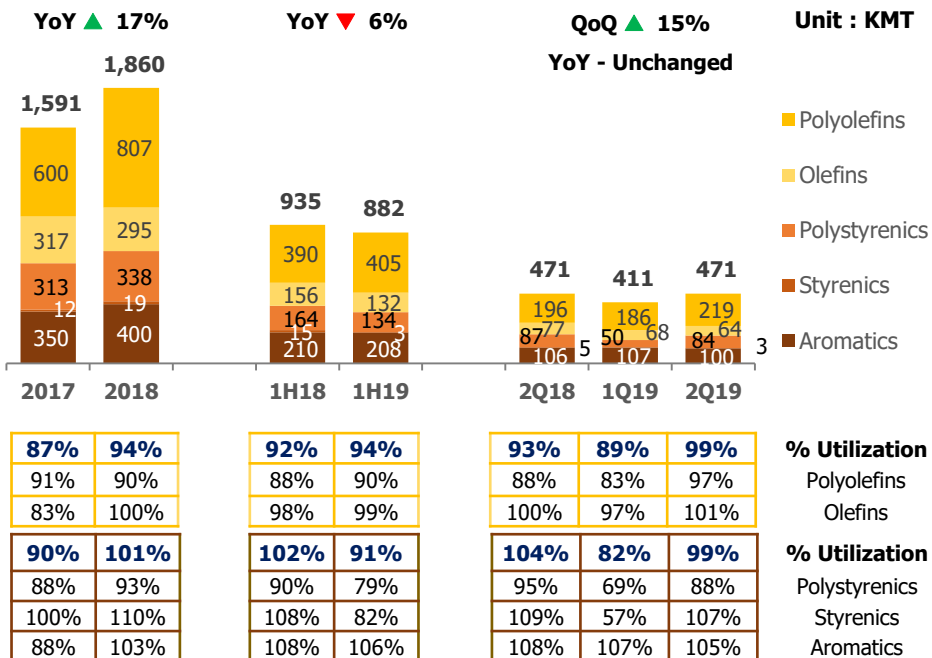
QoQ ▼ 3%



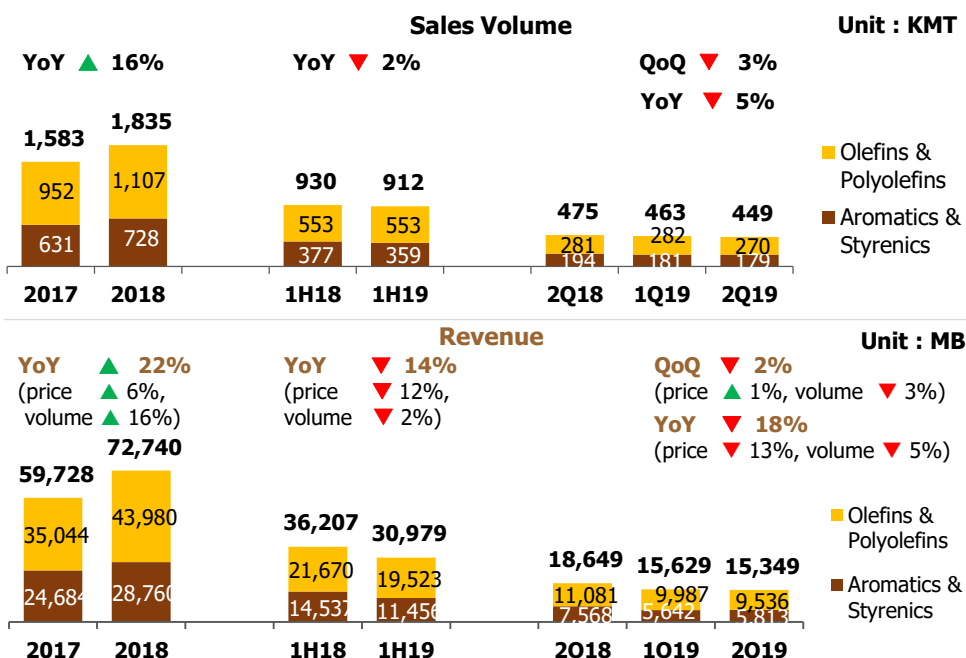
Petrochemical Group

2018: dropped PTF as the decline in petchem. spread vs better product yield after projects completion
1H19 : Products spread reduction caused the decrease PTF

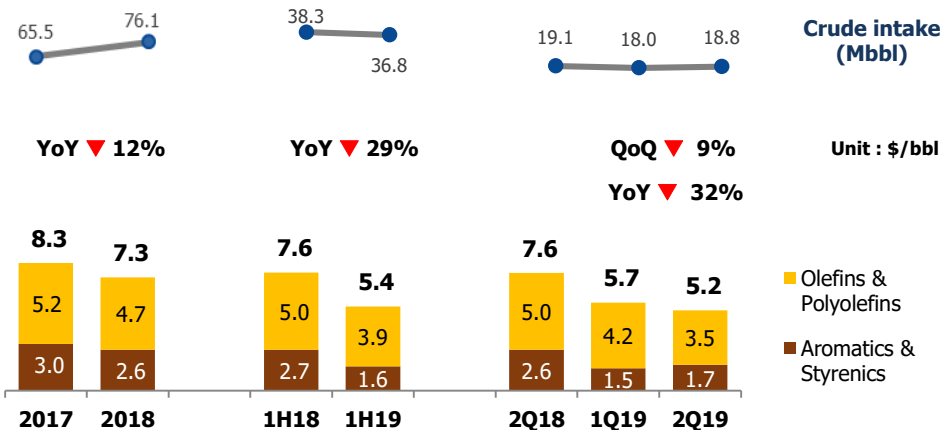
Production



Sales Volume and Revenue



Market PTF



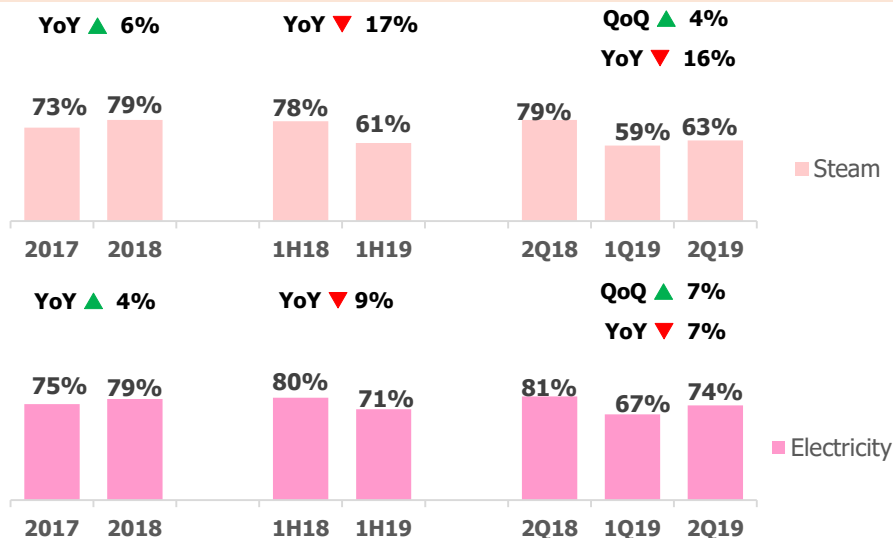
- **2018 : Petrochemical revenue was Bt 73 bn**
 - YoY : 22% increase from 6% price increase & 16% vol. increase (major TA in 1Q17)
- **2018 Market PTF was \$7.3/bbl:**
 - YoY : \$0.9/bbl decrease as lower products spread
- **1H19 : Petrochemical revenue was Bt 31 bn**
 - YoY : 14% decrease from 12% price decrease & 2% volume decrease
- **1H19 Market PTF was \$5.4/bbl:**
 - YoY : \$2.2/bbl decrease due to lower products spread as impact of trade war
- **2Q19 : Petrochemical revenue was Bt 15 bn**
 - QoQ : 2% decrease from 1% price increase vs 3% vol. decrease
 - YoY : 18% decrease from 13% price decrease & 5% vol. decrease
- **2Q19 Market PTF was \$5.2/bbl:**
 - QoQ : \$0.5/bbl decrease as lower products spread vs increase high-value products yield
 - YoY : \$2.4/bbl decrease as lower products spread

Power & Utility

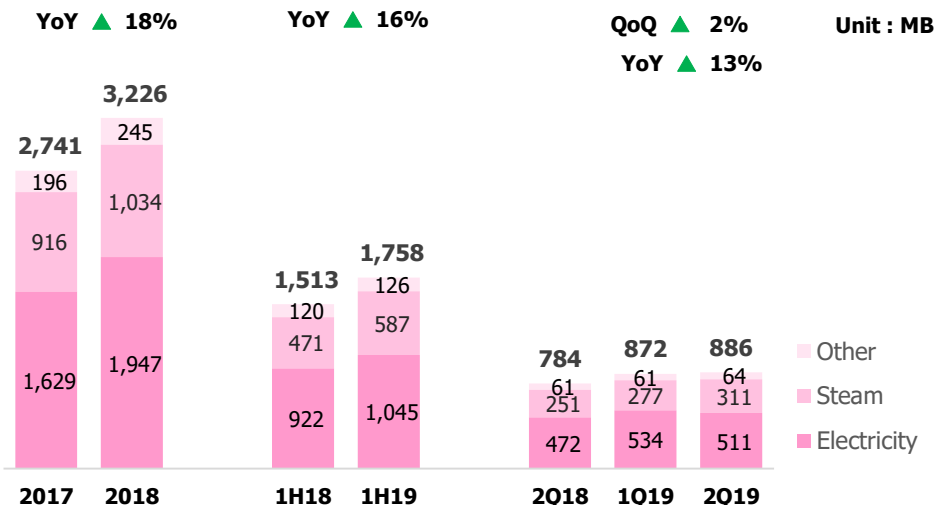
2018: Increasing revenue of Power & UT resulted from high production vol. after major TA

1H19: U-Rate of power & utility declined owing to the planned shutdown of RDCC & petchem plants

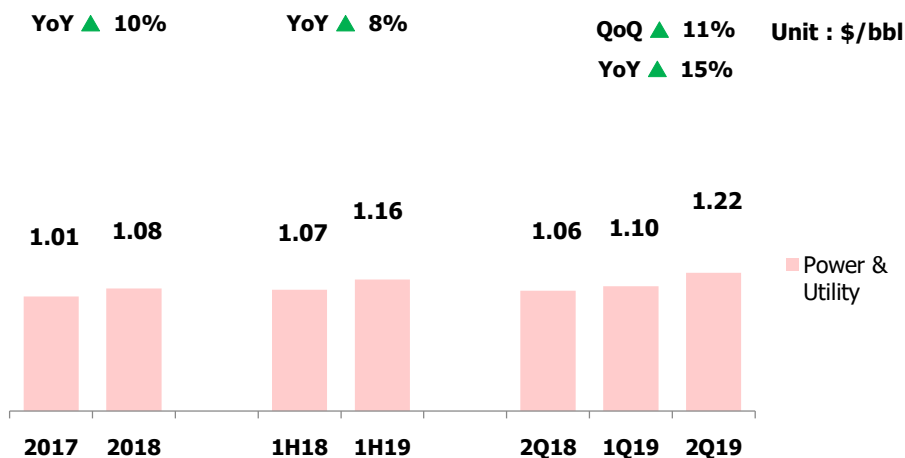
Utilization Rate



Revenue



GIM

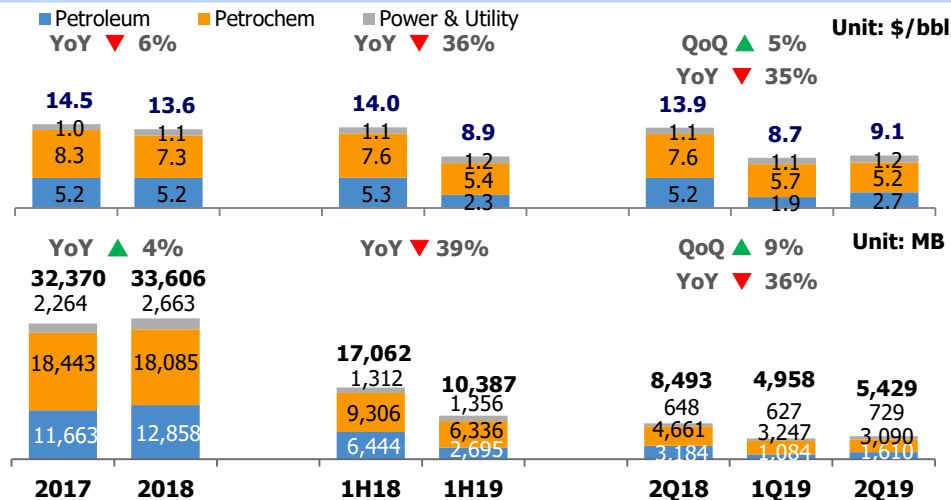


- ❑ **2018 U-Rate of Electricity was 79%; ▲ 4%**
2018 U-Rate of Steam was 79%; ▲ 6%
 - YoY : increase from higher production volume after major TA in 1Q17
- ❑ **2018 : Power & Utility revenue was 3,226 MB**
 - YoY : 18% increase from higher crude run
- ❑ **1H19 U-Rate of Electricity was 71%; ▼ 9%**
1H19 U-Rate of Steam was 61%; ▼ 17%
 - YoY : decrease due to the planned shutdown of RDCC & petchem plants in 1Q19
- ❑ **1H19 : Power & Utility revenue was 1,758 MB**
 - YoY : 16% increase from higher sales vol. & avg. selling prices of power & utilities
- ❑ **2Q19 U-Rate of Electricity was 74%; ▲ 7% QoQ**
2Q19 U-Rate of Steam was 63%; ▲ 4% QoQ
 - QoQ : increase owing to RDCC, Petrochemical plants' maintenance shutdown during 1Q19
- ❑ **2Q19 : Power & Utility revenue was 886 MB**
 - QoQ : 2% increase mainly from steam sales vol. increase
 - YoY : 13% increase because of higher sales vol. & avg. selling prices of power & utility

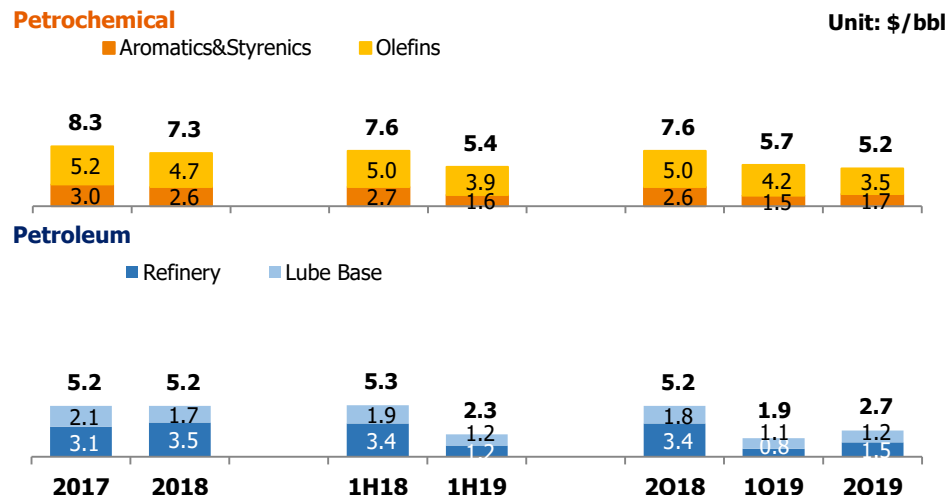
Gross Integrated Margin (GIM)

2018: Higher crude premium & stock loss caused lower Acc. GIM
1H19 : Falling of Mkt GIM owing to weaker products spread

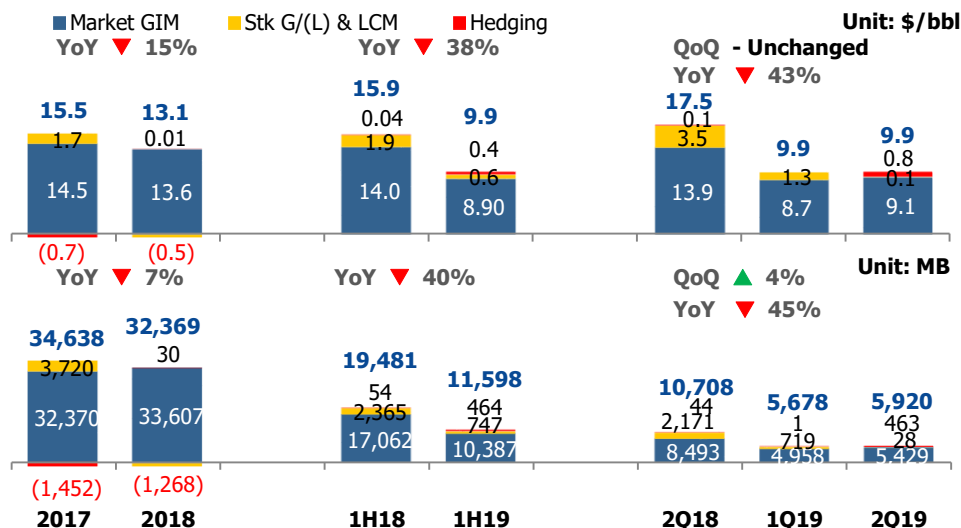
Market GIM



Market GIM by business



Accounting GIM



Market GIM

- 2018 Market GIM was \$13.6/bbl: ▼ \$0.9/bbl from 2017
 - Due to higher crude premium and lower products spread offsetting by better product yield after the COD of projects
- 1H19 Market GIM was \$8.9/bbl: ▼ \$5.1/bbl from 1H18
 - Due to lower spread & RDCC planned shutdown VS lower crude premium
- 2Q19 Market GIM was \$9.1/bbl,
 - QoQ: ▲ \$0.4/bbl due to higher ULG95&Asphalt spread & resuming operation of RDCC VS higher crude premium
 - YoY: ▼ \$4.8/bbl due to lower spread VS lower crude premium

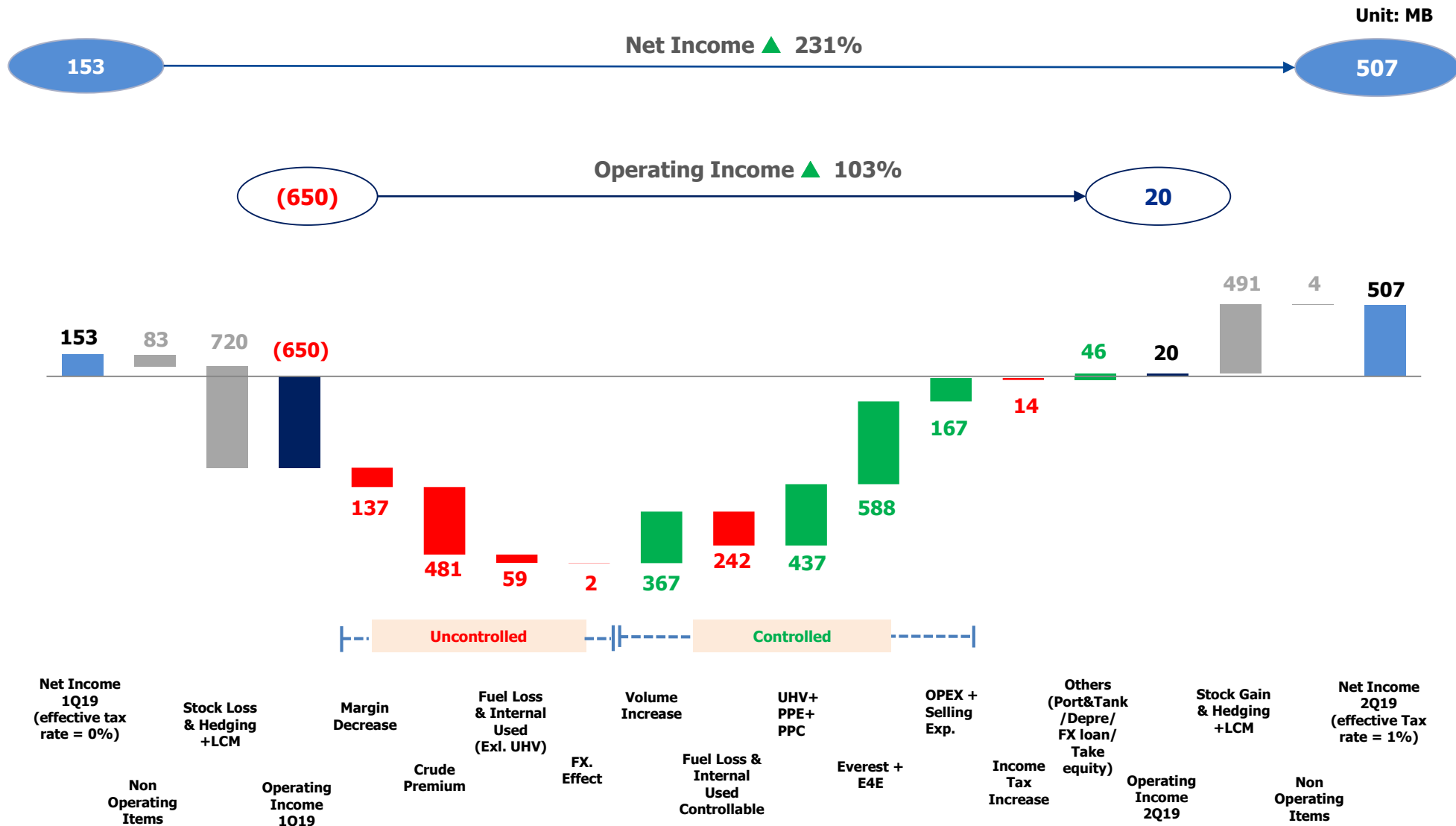
Accounting GIM

- 2018 Acct GIM was \$13.1/bbl: ▼ \$2.4/bbl from 2017 due to \$1.5 higher stock loss and \$0.9/bbl lower of market GIM
- 1H19 Acct GIM was \$9.9/bbl: ▼ \$6.0/bbl from 1H18 due to \$5.1/bbl lower market GIM & \$0.9/bbl lower stock gain
- 2Q19 Acct GIM was \$9.9/bbl,
 - QoQ: stable due to \$0.4/bbl higher of market GIM VS \$0.4/bbl lower stock gain
 - YoY: ▼ \$7.6/bbl due to \$4.8/bbl lower market GIM & \$2.8/bbl lower stock gain

Operating Net Income: 2Q19 vs 1Q19

Resuming RDCC operation plus projects led to better operating income

Unit: MB



Important Events in History

HISTORY

1978



Founded by
"Leophairatana"
Family as TPI

1982



Operated first
LDPE plant in
SEA

1995



IPO

1997



Debt
Moratorium

2000



- Increased refinery capacity from 65 kbd to 215 kbd
- Entered Rehabilitation Plan

2003



MOF was
appointed as plan
administrator

2004



Restructuring
Plan was
approved

2005



**Successful
Rehabilitation →
new major
shareholders:**

- PTT 31.5%
- Gov't (Vayupak) Fund 10%
- Gov't Saving Bank 10%
- Gov't Pension Fund Group 10%

2006



Exited from
Rehabilitation
plan and
Registered as
IRPC Plc.

KEY MILESTONES OF THE DECADE

2009



Business
Improvement
under Phoenix
Project

2011



Commenced
operation of
Combined Heat
and Power Project
(CHP I)

2013



- Efficiency improvement#1 under "DELTA" Project
- Capacity Increase: ABS/SAN to 179 KTA

2015



Efficiency
improvement#2 :
Launched "EVEREST"
project

2016



- Commenced UHV project in July 2016

2017



- Commenced PPE project in Sept. 2017
- Commenced PPC project in Dec. 2017

2018



- Launched "GDP" project : Growth, Digital, People

IRPC Turnaround Plan 2019

Unit: Day

Plant		2019												2019
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Petroleum	ADU1								19					19
	ADU2													0
	DCC													0
	RDCC	●—28—●												28
	LUBE										●—15—●			15
Petrochemical	EBSM			30										30
	HDPE		15											15
	PP	●—12—●												12
	ABS/SAN		●—47—●											47
	PS			13										13

Thank You



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