



Analyst Meeting

3Q2021 & 9M2021

23 Nov 2021



POWERING LIFE
with **FUTURE ENERGY** and **BEYOND**

ขับเคลื่อนทุกชีวิตด้วยพลังแห่งอนาคต

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Key Activities in 3Q2021



What we have done so far?



- Establishment of EVME PLUS as digital service platform to promote EV
- JV (60%) with FOXCONN for the electric vehicle manufacturing business
- MOU with Hozon to explore opportunities for EV market expansion and production with the facility of JV between Arun+ and Foxconn in Thailand
- JV (50%) with BGRIM for operating in LNG Business to procure and supply LNG (Seeking for further business opportunities related to LNG value chain)
- PTT – EGAT renewed 10 years Gas purchase agreement for Nam Phong Power Plant



- Established 7 subsidiaries to support future investment, especially in AI and Robotics such as
 ROVULA: Marine inspection
 SKYLLER: Integrated asset inspection via drone
 VARUNA: Smart farming
 CARIVA: Health data network



- Establishment of ORZON VENTURES to invest in high-potential startup companies in Thailand and Southeast Asia
- Investment in Imsub Global Cuisine to strengthen OR's food and beverage business



- Establishment of GC Marketing Solutions (Shanghai) to support trading business (Polymer) in China
- Investment in HVB (coating resins) (Acquired 100% in Allnex)
- FID Bioplastic project plant 2 (capacity: 75,000 tons per year)



- Investment 15.4% in petrochemical producer (Olefins) in Indonesia (PT Chandra Asri)



- FID Refinery Efficiency and Diesel Quality Improvement Project for EURO V Standards (Ultra Clean Fuel)



- Investment 41.6% in power project in India (Avaada: 4,560 MW)
- Investment 25% in offshore wind power projects in Taiwan (CI Changfang and CI Xidao : 595 MW)

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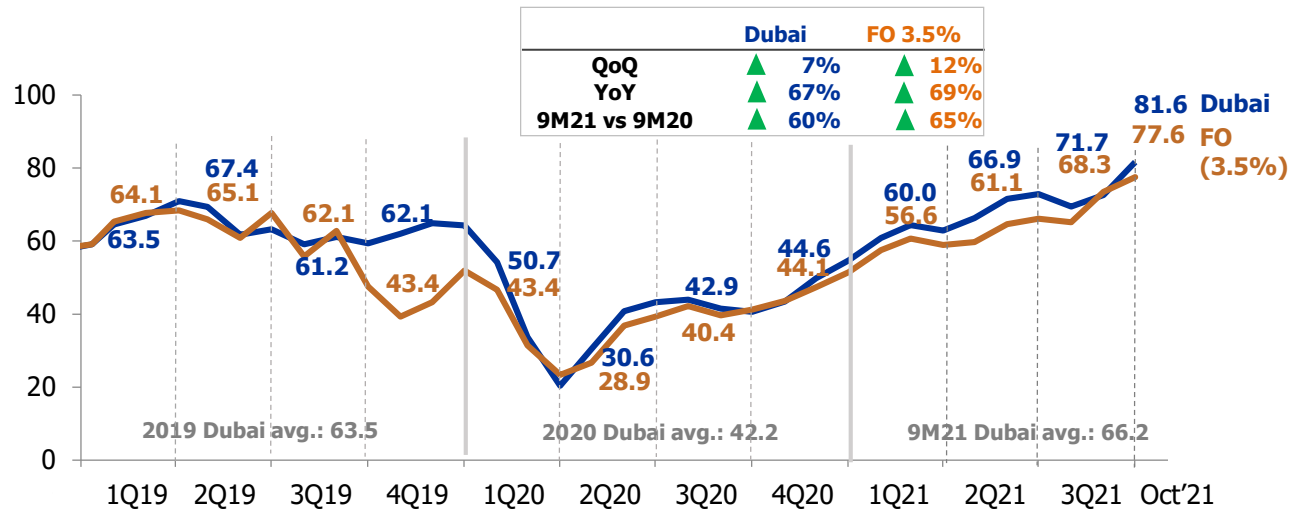
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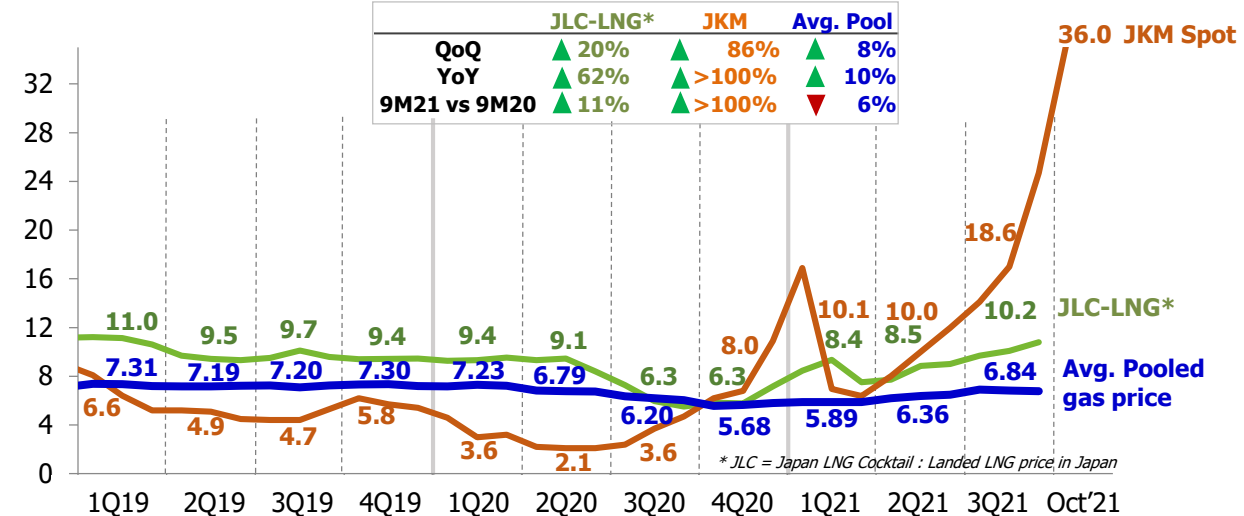
Key Business Drivers:

QoQ: Crude and most of product prices increased from improved demand following easing of lockdown while supply remained tight
9M21 vs 9M20: All petroleum and petrochemical prices improved from the demand recovery still pooled gas price dropped with lag time

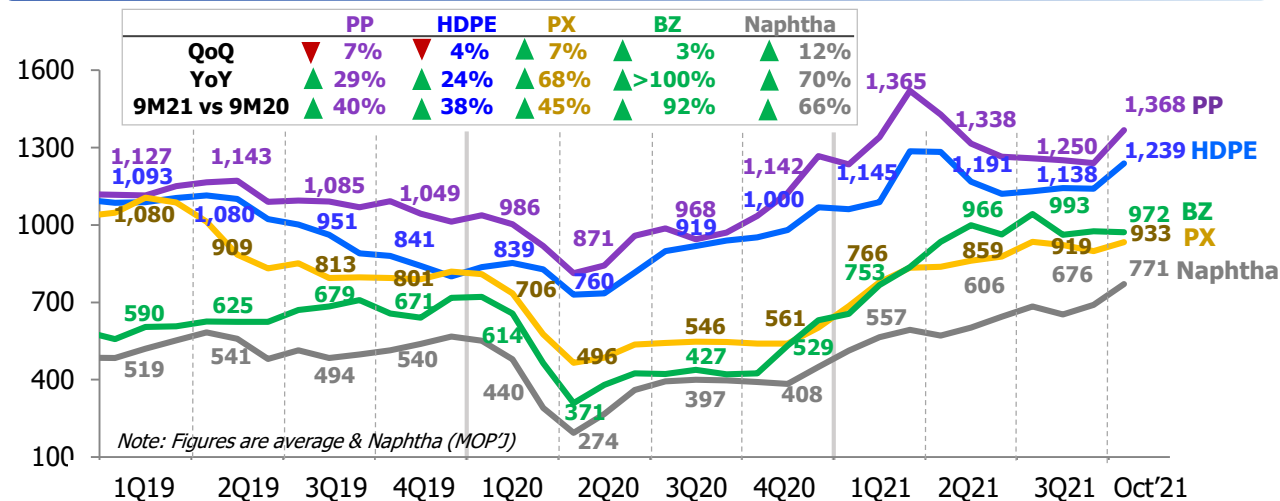
AVG. Petroleum Prices (\$/bbl)



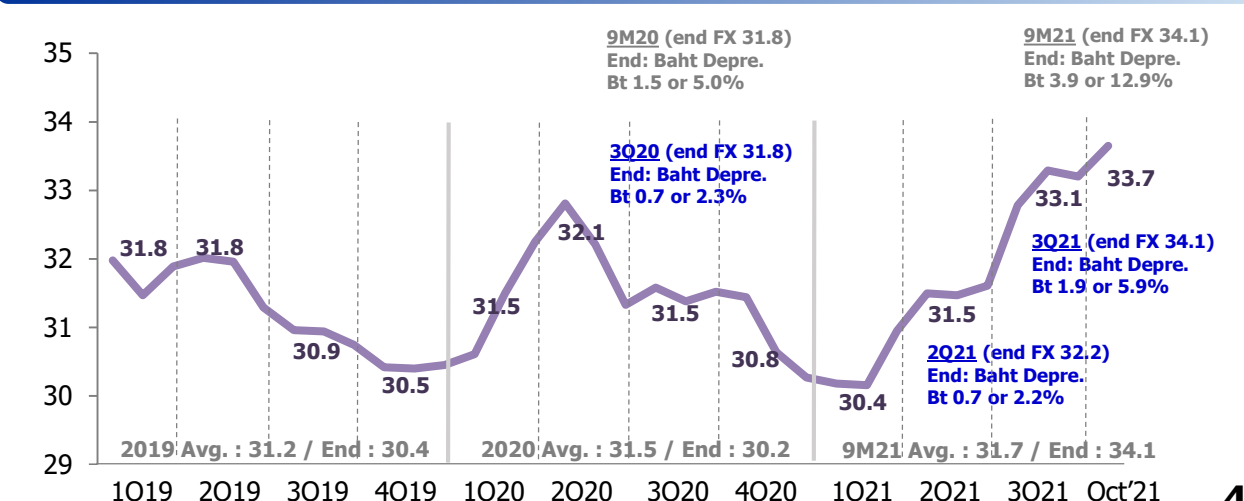
AVG. NG Prices (\$/MMBTU)



Petrochemical Prices (Avg. \$/ton)



AVG. FX (THB/USD)



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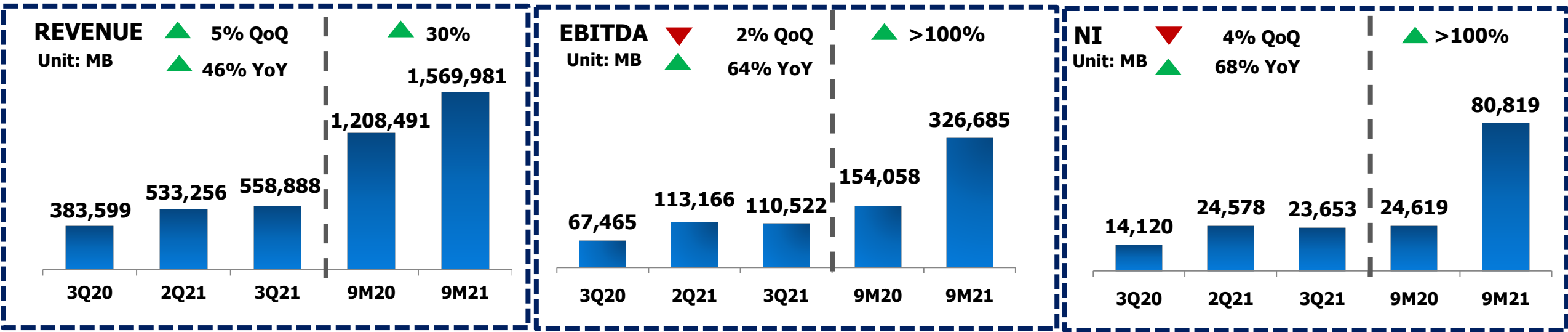
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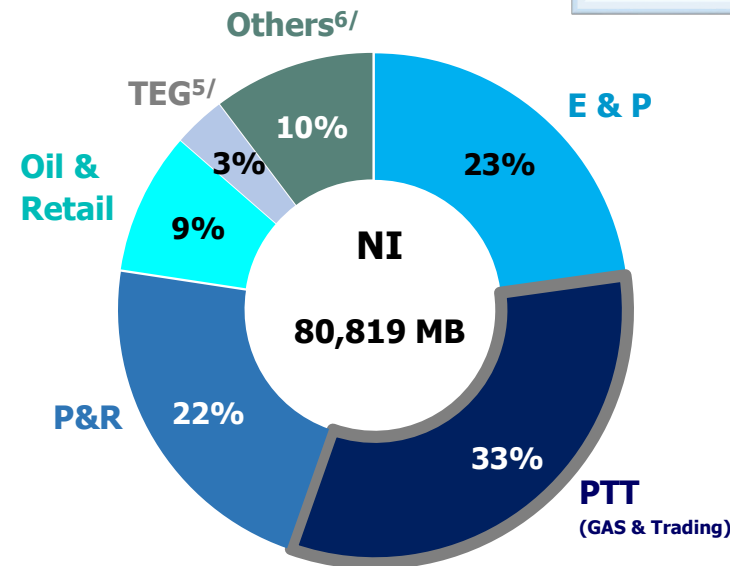
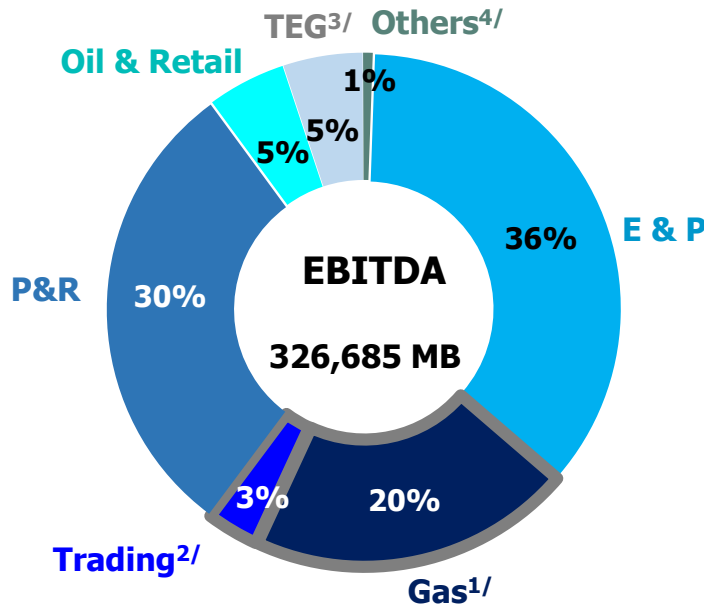
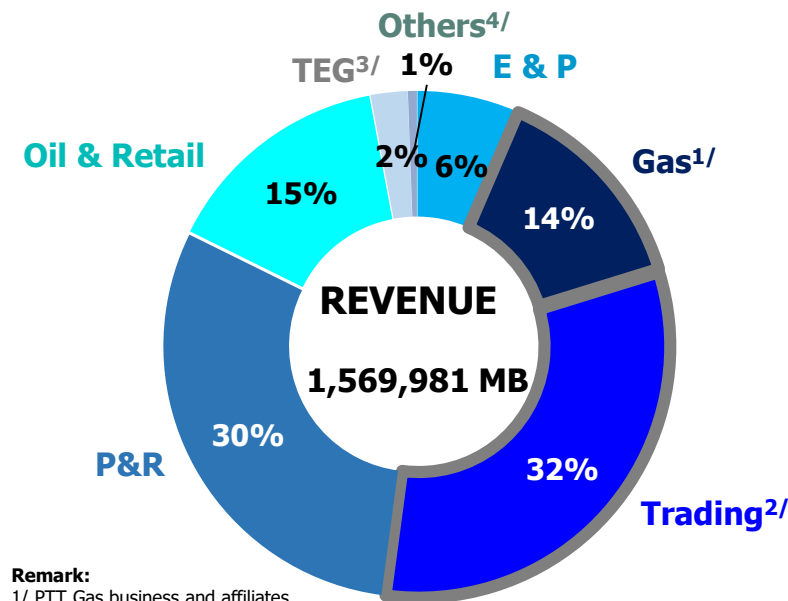
PTT Consolidated Performance: 3Q2021 & 9M2021

QoQ: NI soften primarily from P&R and Oil businesses due to lower demand impact of Covid-19 Delta variant

9M21 vs 9M20: Robust performance as a result of petroleum & petrochemical demand recovery in line with global trend



9M2021



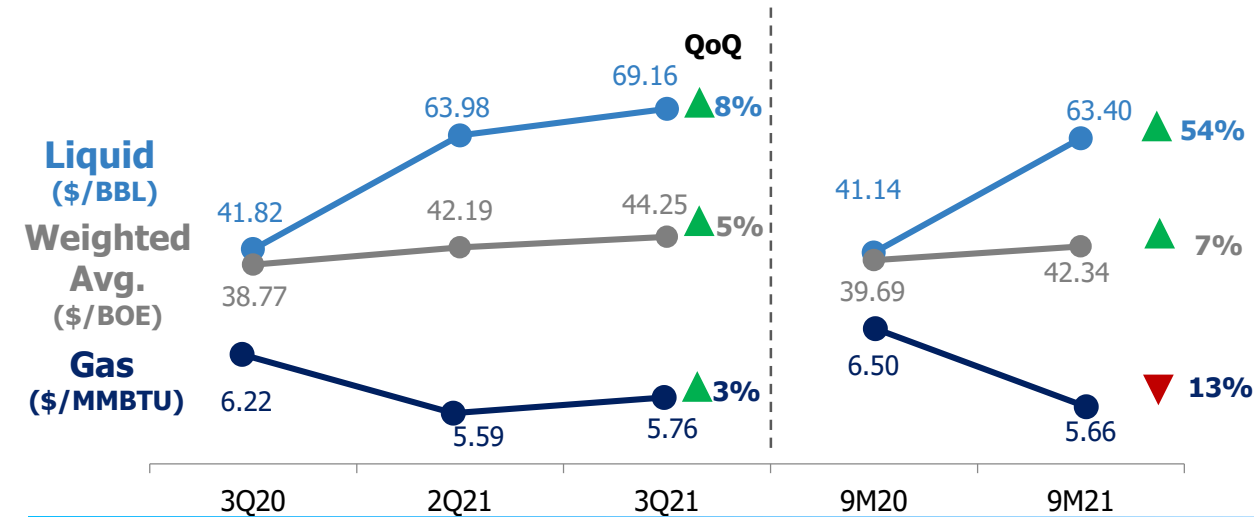
Remark:
 1/ PTT Gas business and affiliates
 2/ PTT Trading business and affiliates
 3/ Technology and Engineering business mainly contributed from power business
 4/ Others business mainly contributed from coal business

Remark:
 5/ Technology and Engineering business mainly contributed from power business
 6/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.

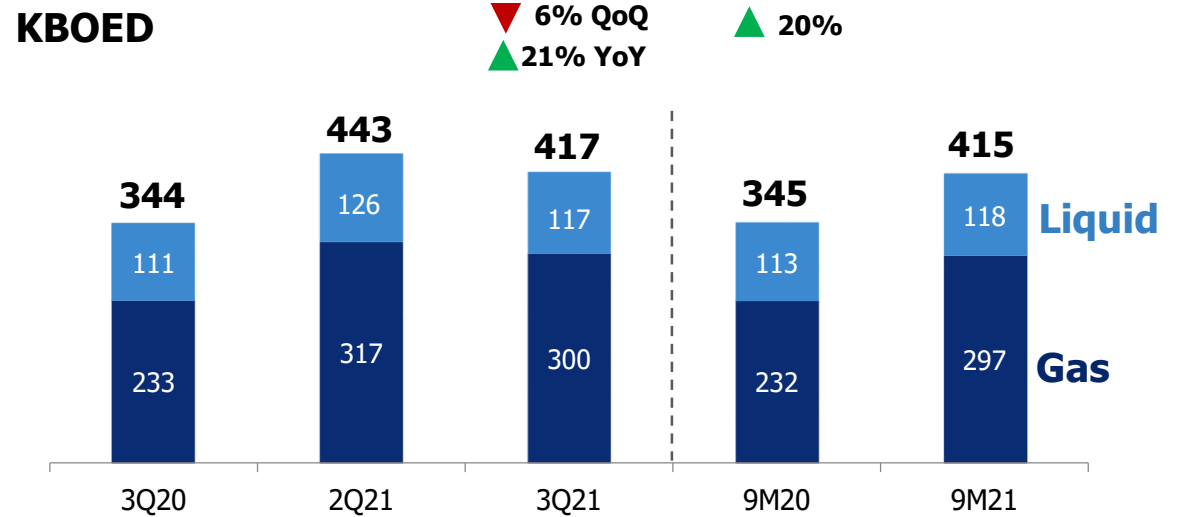
E&P Performance

QoQ: Increased earning from higher average selling prices and lower oil price hedging loss
9M21 VS 9M20: Strengthen performance due to higher sales volume and selling prices

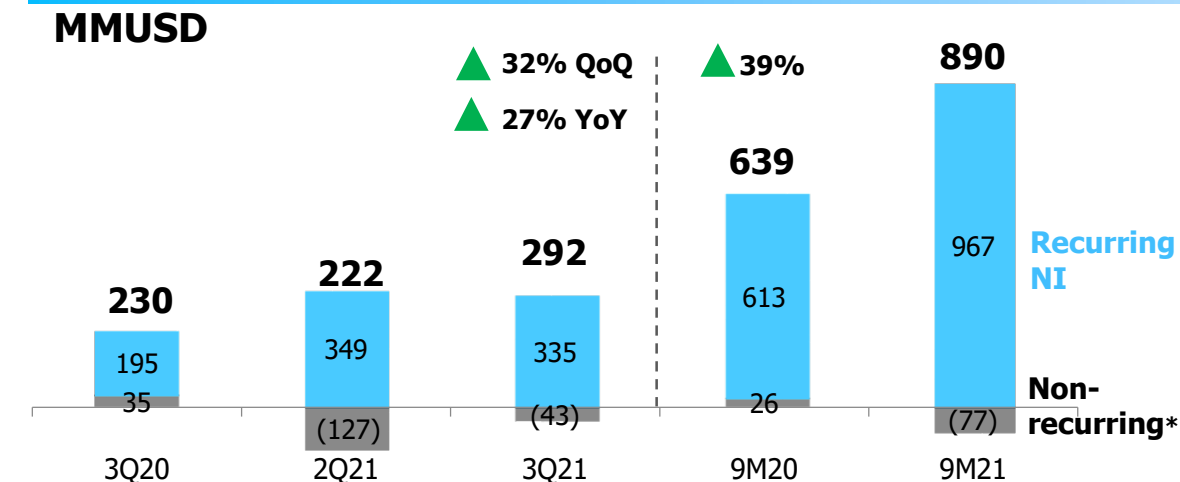
Product Prices



Sales Volume



Net Income (100%)



QoQ

- Recurring NI : decreased from lower sales volume and higher unit cost despite higher selling prices
- + Non-recurring : improved mainly from lower oil price hedging loss

9M21 VS 9M20

- + Recurring NI : significantly enhanced from higher sales volume and selling prices and lower unit cost
- Non-recurring : lower primarily from higher oil price hedging loss and write-off of Brazil's project despite gain from bargain purchase of Oman Block 61

* Includes Gain/(Loss) on FX, Deferred tax from Functional currency, Current Tax from FX Revaluation, Gain/(Loss) from Financial Instruments, Impairment loss on assets and etc.

PTT EBITDA Breakdown by Business



Unit: MMTHB

	3Q20	2Q21	3Q21	QoQ	YoY	9M20	9M21	9M21 vs 9M20
GAS	13,279	22,134	23,388	▲ 6%	▲ 76%	38,740	67,297	▲ 74%
S&M	2,044	3,732	4,281	▲ 15%	▲ >100%	5,324	12,788	▲ >100%
TM	8,727	8,577	8,463	▼ 1%	▼ 3%	26,766	25,160	▼ 6%
GSP	582	7,384	8,198	▲ 11%	▲ >100%	1,910	21,802	▲ >100%
NGV	(413)	(425)	(465)	▼ 9%	▼ 13%	(1,677)	(1,111)	▲ 34%
Others	2,339	2,866	2,911	▲ 2%	▲ 24%	6,417	8,658	▲ 35%
Trading	601	907	1,942	▲ >100%	▲ >100%	2,759	3,987	▲ 45%
Total	13,880	23,041	25,330	▲ 10%	▲ 82%	41,499	71,284	▲ 72%

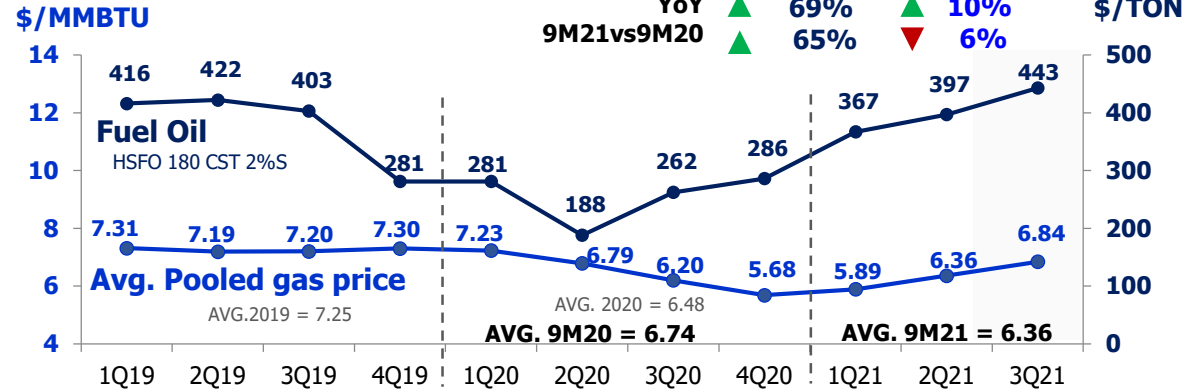
Gas Business

QoQ : Lower NG vol. from all customers esp. power producers and GSP

9M21 vs 9M20 : Increased gas sales vol., higher industrial selling prices referenced to FO price and lower pooled gas cost

NG Price VS FO & Customer Breakdown

NG Price

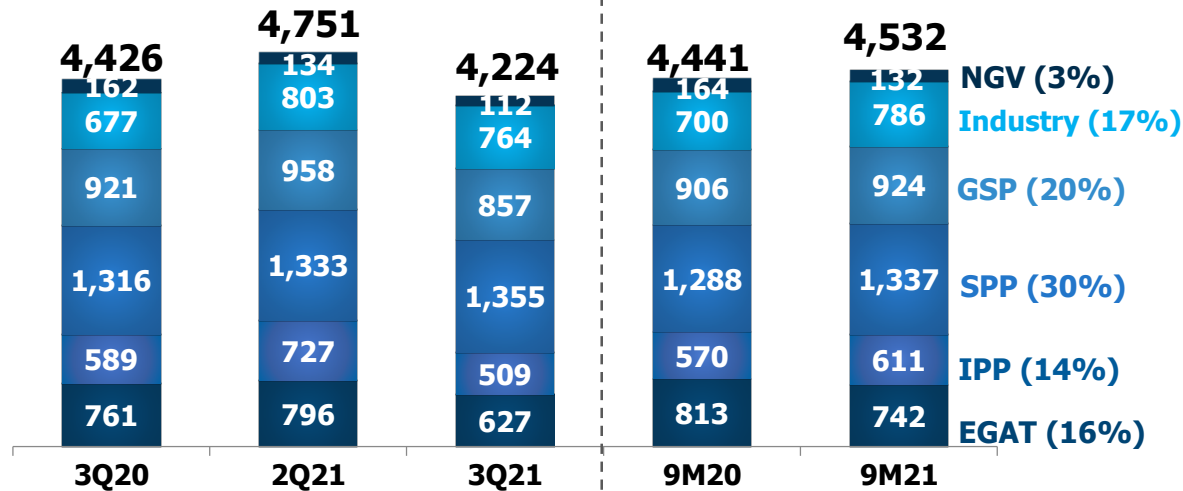


NG Vol.

Unit: MMSCFD

▼ 11% QoQ
▼ 5% YoY

▲ 2%

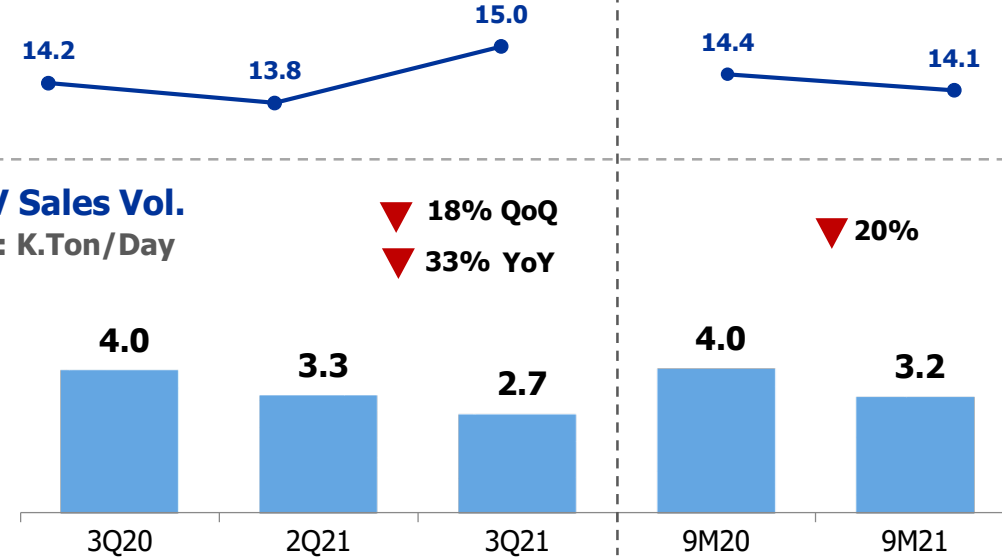


NGV Price & Sales Volume

NGV Avg. price

Unit: THB/KG

▲ 9% QoQ
▲ 6% YoY

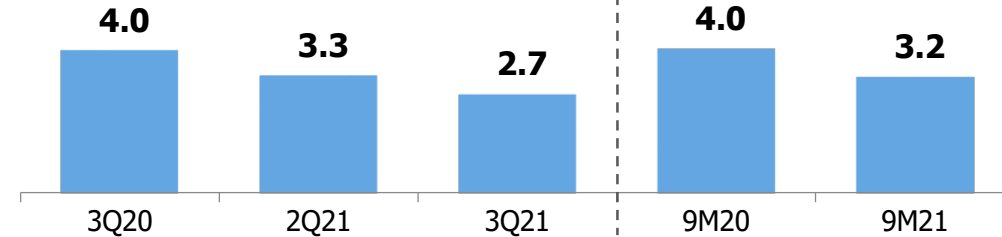


NGV Sales Vol.

Unit: K.Ton/Day

▼ 18% QoQ
▼ 33% YoY

▼ 20%



Key Highlights

QoQ

- Decreased overall NG sales volume from all customers esp. power producers and GSP due to seasonal demand and planned major shutdown of GSP#6
- NGV vol. reduced from impact of Lockdown
- + Industrial selling prices linked to FO increased

9M21 vs 9M20

- + NG sales vol. increased from almost all customers except NGV due to the recovery of economic activities and lower shutdown days
- + Industrial selling prices improved according to FO price linked
- + Lower pooled gas cost from gulf and Myanmar gas benefit to overall gas business

Gas Business : Gas Separation Plant (GSP)

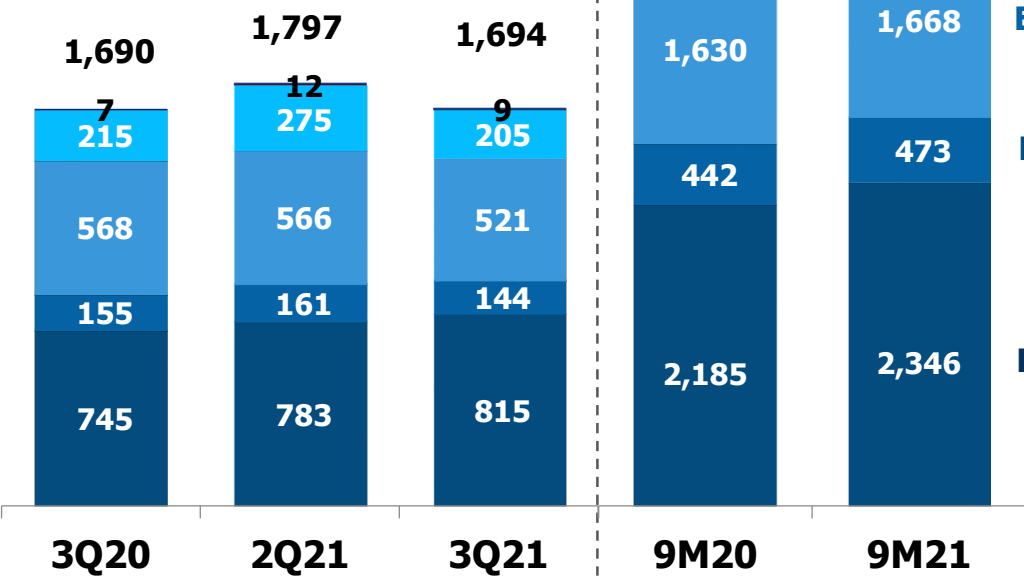
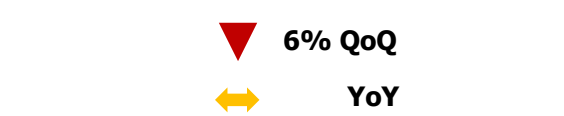
QoQ : GSP performance enhanced from higher average selling prices despite lower volume due to major shutdown

9M21 vs 9M20 : Outperformed GSP performance due to higher selling prices & volume together with lower feed cost

GSP Sales Vol. & U-Rate

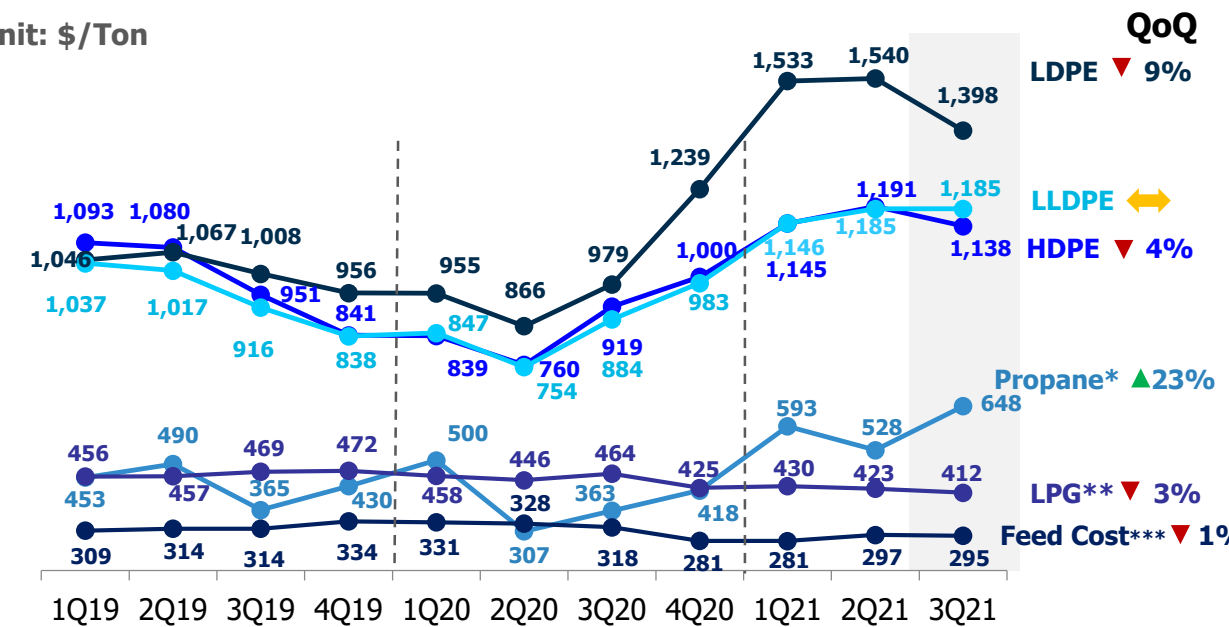


Unit : kTon



GSP Feed Cost vs Petchem. Price

Unit: \$/Ton



* LPG price selling to Petro customers close to propane **LPG Domestic ***feed cost calculation per GSP production volume

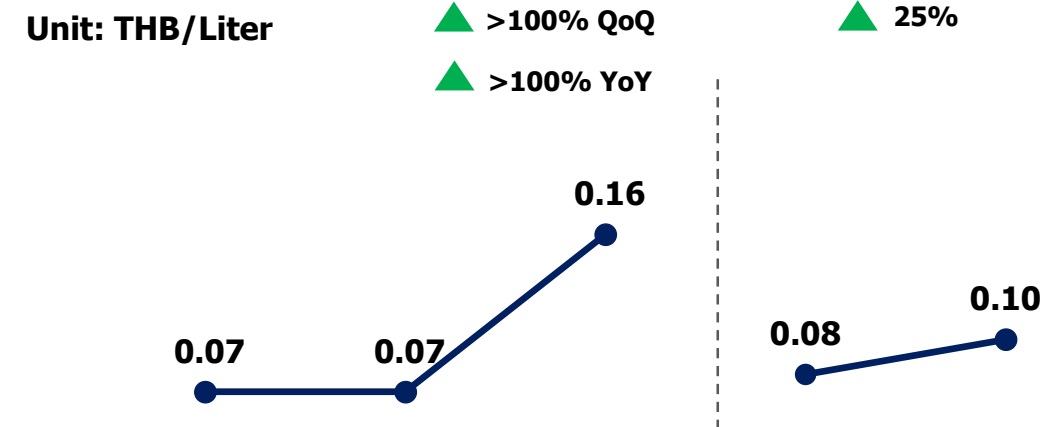
Key Highlights

- QoQ** ▲
- + Higher average GSP's selling prices following referenced global petrochemical prices esp. LPG and Propane
 - Decreased sales volume & U- Rate according to major planned shutdown of GSP#6
 - Feed cost remained stable
- 9M21 vs 9M20** ▲
- + Increased GSP's selling prices following global petrochemical prices
 - + Higher sales volume according to higher petrochemical demand and less plants' shutdown compared to 9M20
 - + Lower feed gas cost

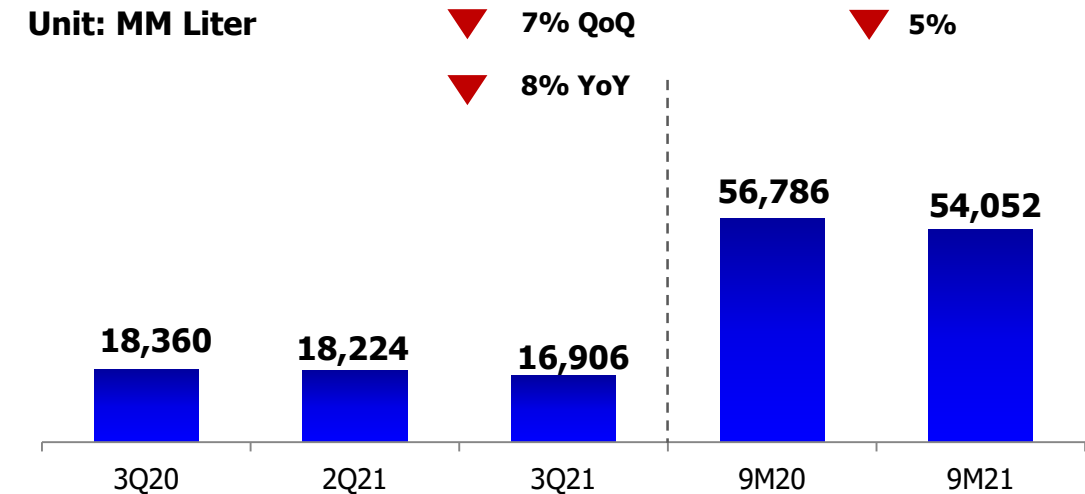
Trading Business:

QoQ: Performance improved owing to sharply increased gross margin while sales volume dropped
9M21 vs 9M20 : Enhanced EBITDA mainly due to improved domestic condensate margin

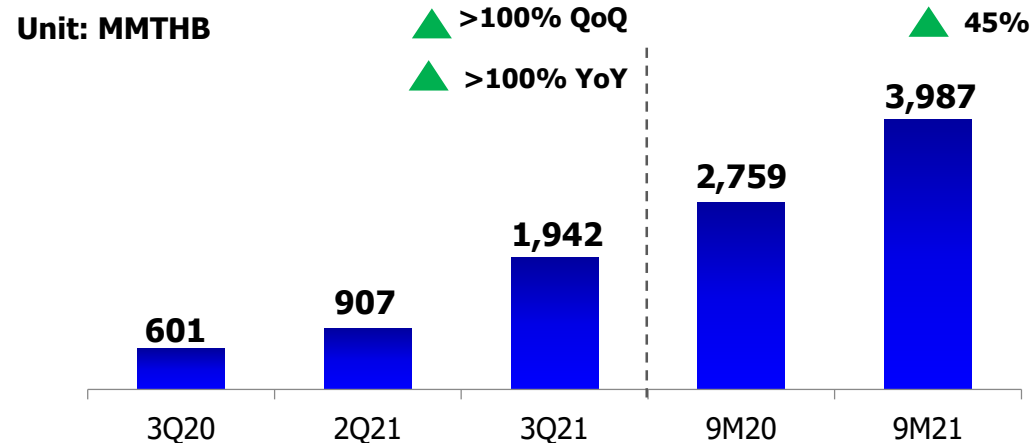
Gross Margin¹



Sales Volume²



Trading – EBITDA³



Key Highlights

QoQ ▲

- + Improved spread of domestic condensate
- Decreased sales vol. from lower crude out-out activities from lower demand of West African and Mediterranean crude in Asia since Brent/Dubai spread widen
- + Improved EBITDA following higher gross margin

9M21 vs 9M20 ▲

- + Higher domestic condensate margin and margin per unit of LNG, LPG, and Aromatics products increased from out-out trading
- Volume decreased due to lower out-out & out-in transactions of crude oil impacted by Covid-19 pandemic started since March 2020
- + EBITDA improved from higher gross margin

¹ PTT Trading BU + trading subsidiaries: FX Adjusted + gain/loss on derivatives
+ Joint Trade Agreement (JTA)

² PTT Trading BU + trading subsidiaries + JTA

³ PTT Trading BU + trading subsidiaries: FX Adjusted + gain/loss on derivatives

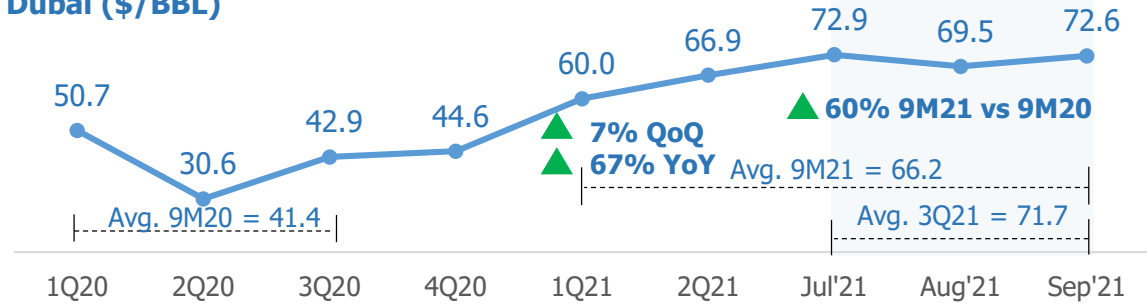
Oil Business : OR Group

QoQ : NI declined from both of oil and non-oil sales volume and margin pressured by Covid-19 Delta variant

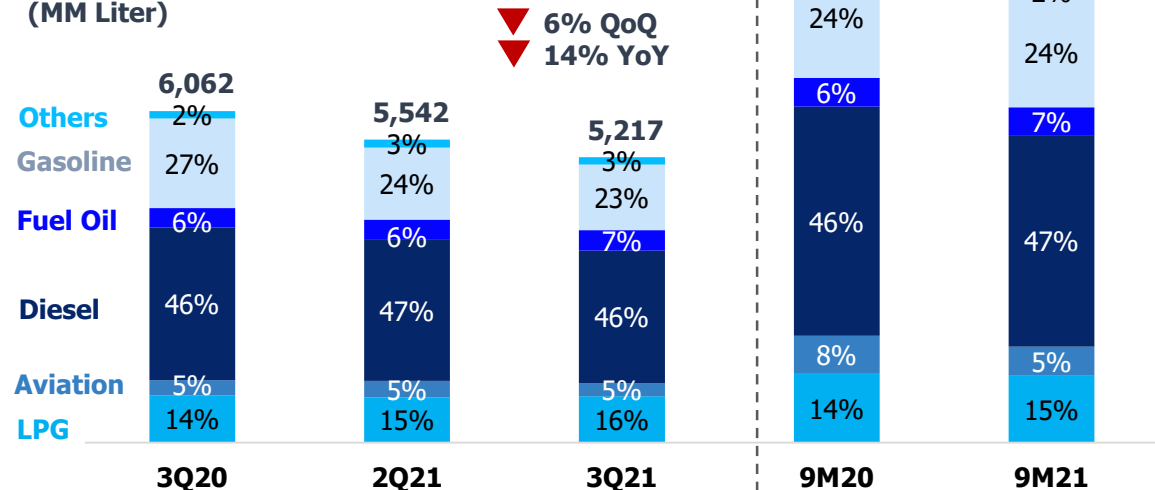
9M21 vs 9M20 : Improved performance from wider oil margin despite reduced oil sales volume and non-oil performance

Oil Business

Dubai (\$/BBL)

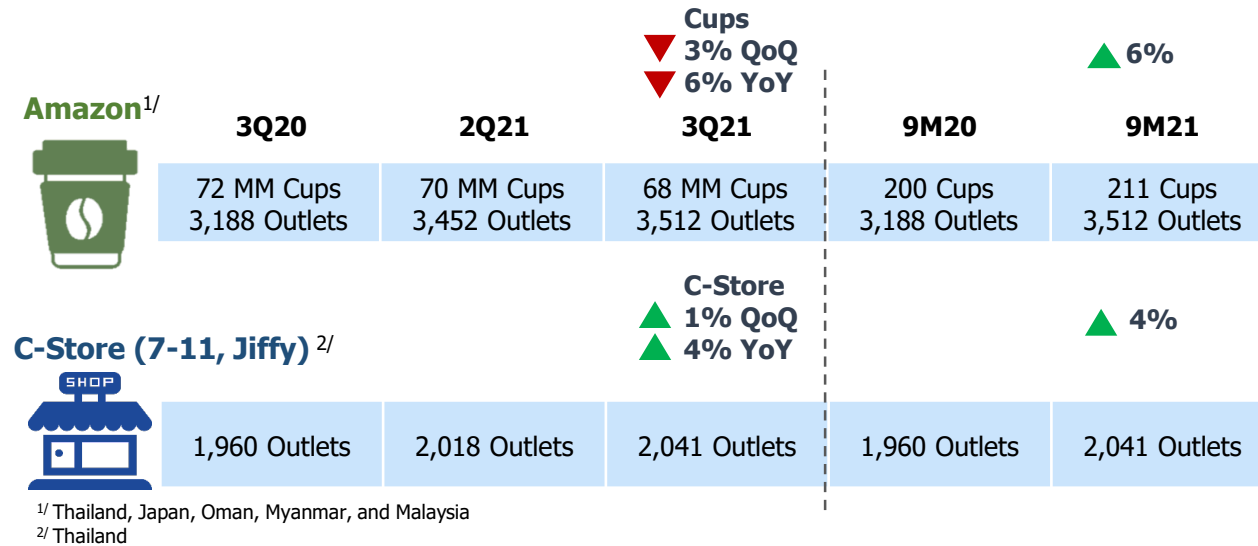


Sales Volume (MM Liter)



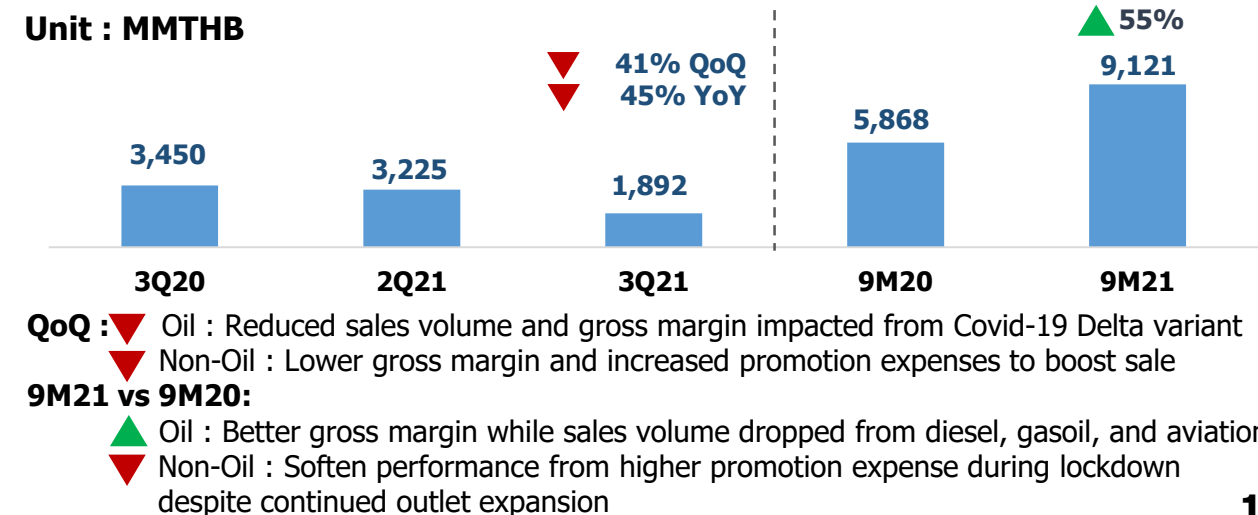
*Gross margin included stock gain/(loss)

Non-Oil Business



Net Income

Unit : MMTHB

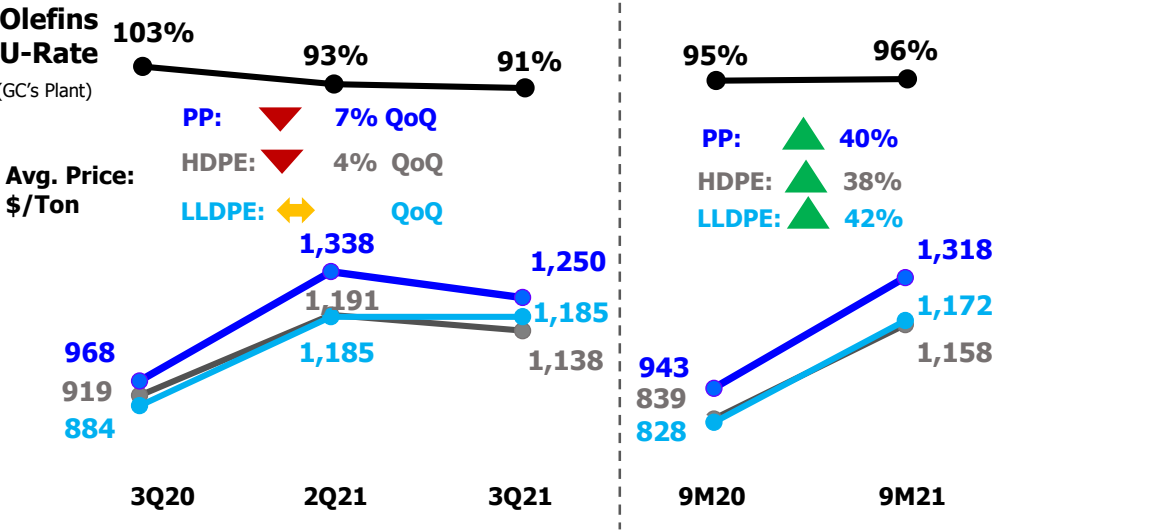


QoQ :
 Oil : Reduced sales volume and gross margin impacted from Covid-19 Delta variant
 Non-Oil : Lower gross margin and increased promotion expenses to boost sale
 9M21 vs 9M20 :
 Oil : Better gross margin while sales volume dropped from diesel, gasoil, and aviation
 Non-Oil : Softer performance from higher promotion expense during lockdown despite continued outlet expansion

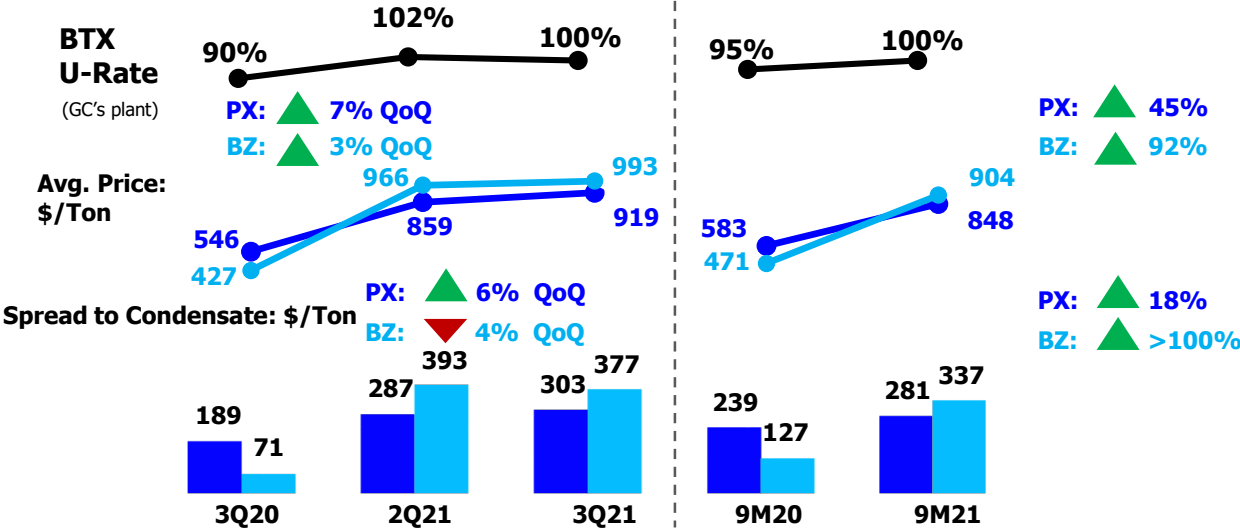
P&R Businesses

QoQ: Softer performance mainly from refinery's shutdown, increased feed cost, and higher hedging loss
 9M21 vs 9M20: Robust performance from stock gain and petrochemical prices hiked following global demand recovery

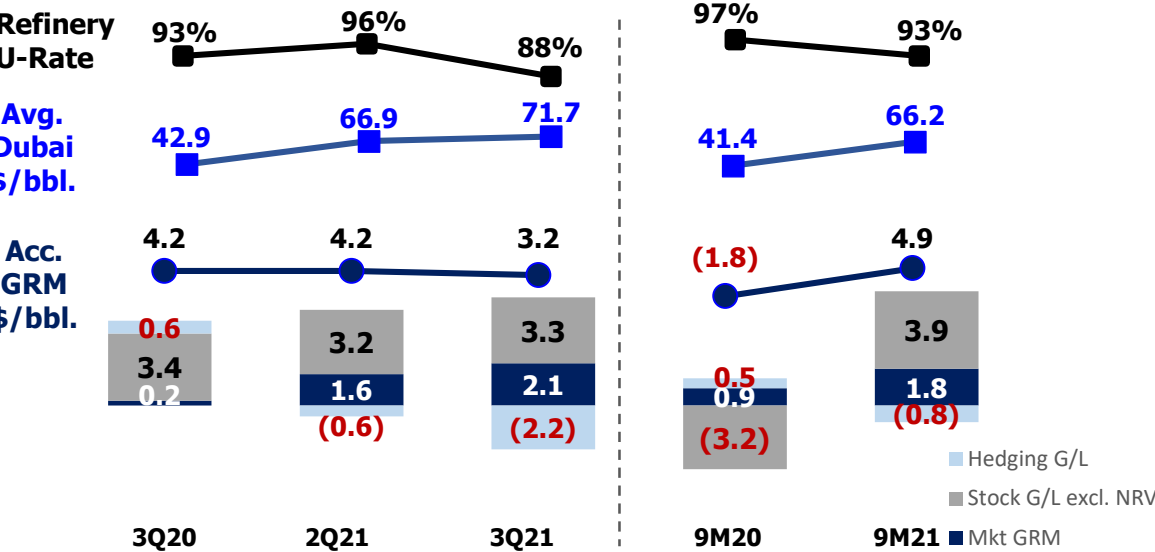
Olefins



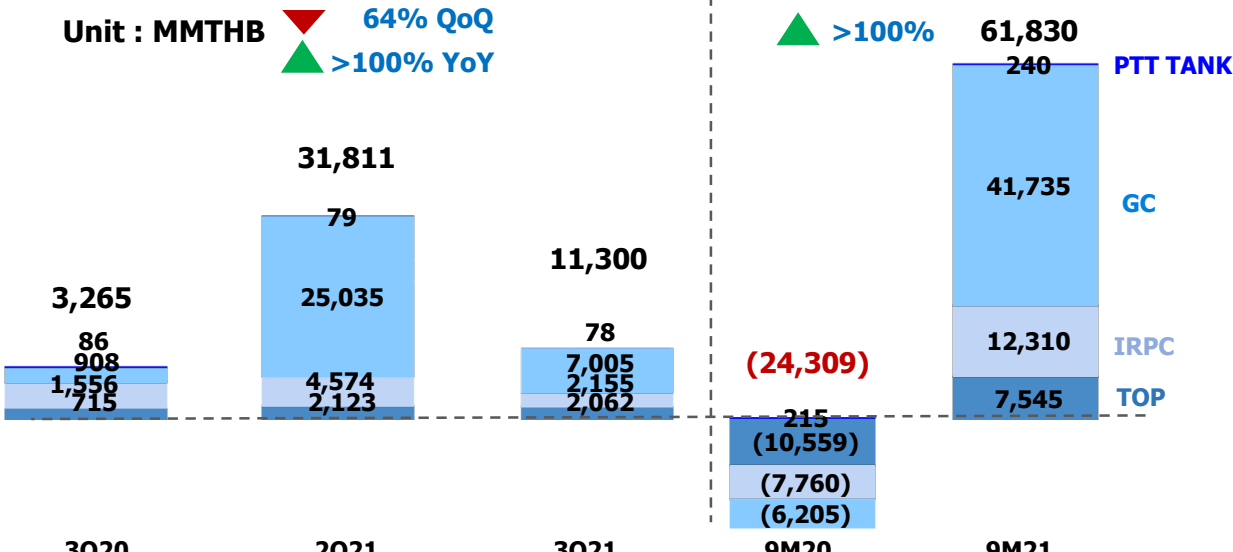
Aromatics



Refinery



Net Income (100%)

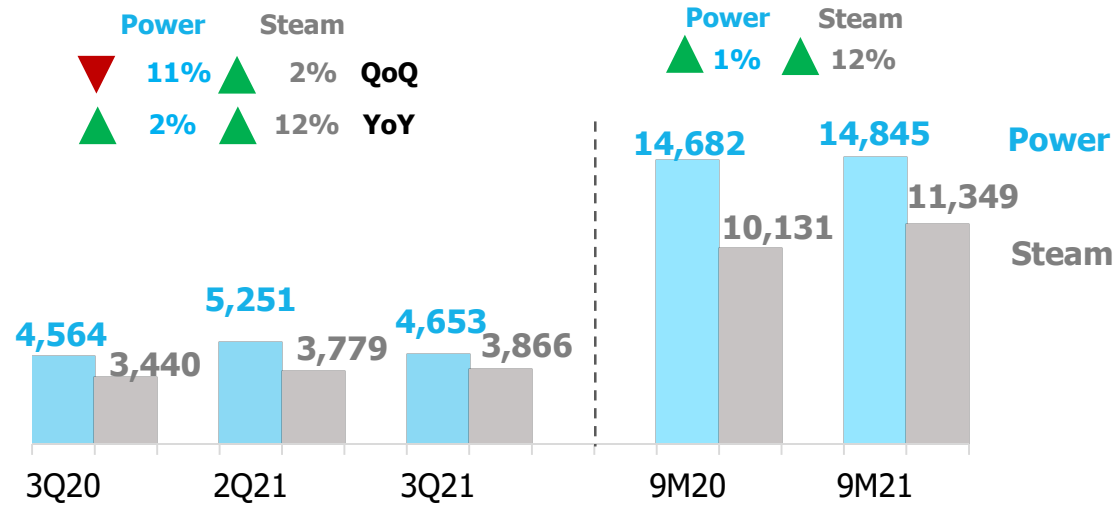


TEG Business: Power - GPSC

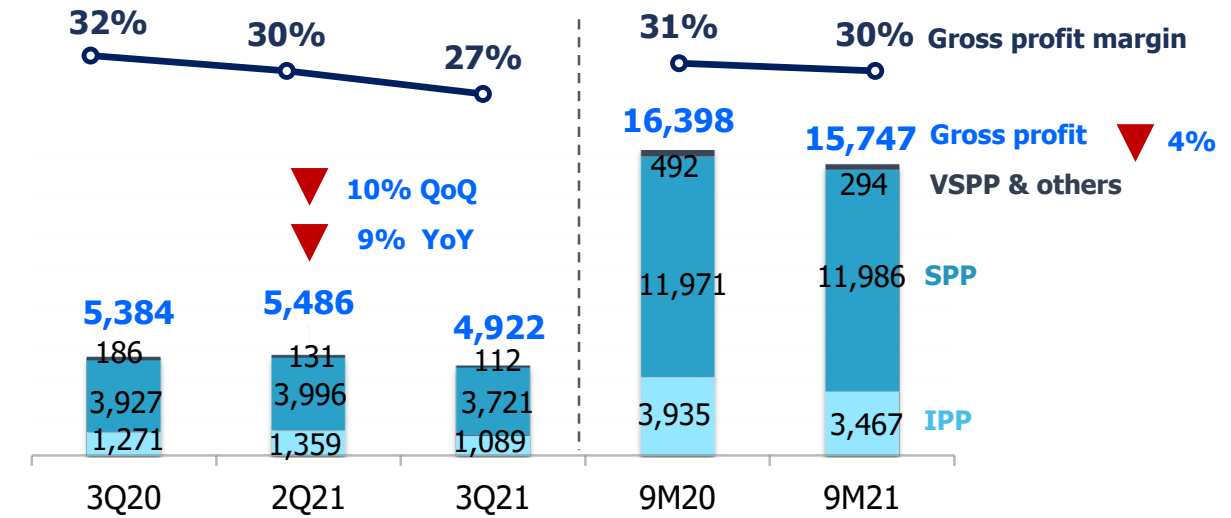
QoQ: Soften NI due to IPP and SPP's unplanned outages together with higher fuel costs

9M21 vs 9M20: Better performance mainly from XPCL's contribution

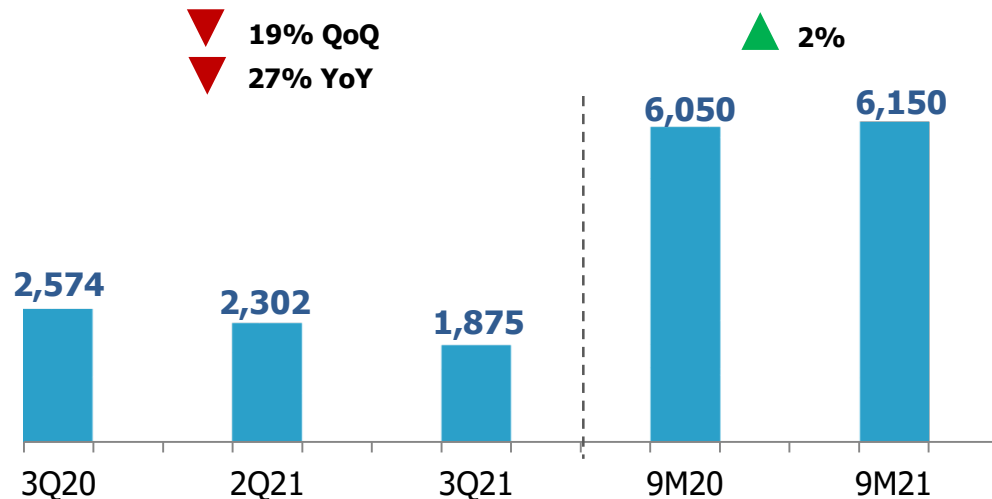
Sales Volume Unit: Power: GWh / Steam: '000 Ton



Gross profit & Gross profit margin Unit: MMTHB



Net Income Unit: MMTHB



QoQ ▼

- Lower gross profit
 - SPP : higher natural gas & coal costs and Glow Energy Phase 5's unplanned outage
 - IPP : lower AP mainly from GHECO-One's unplanned outage
- + Higher shares of profit from Xayaburi Power Plant (XPCL) due to rainy season

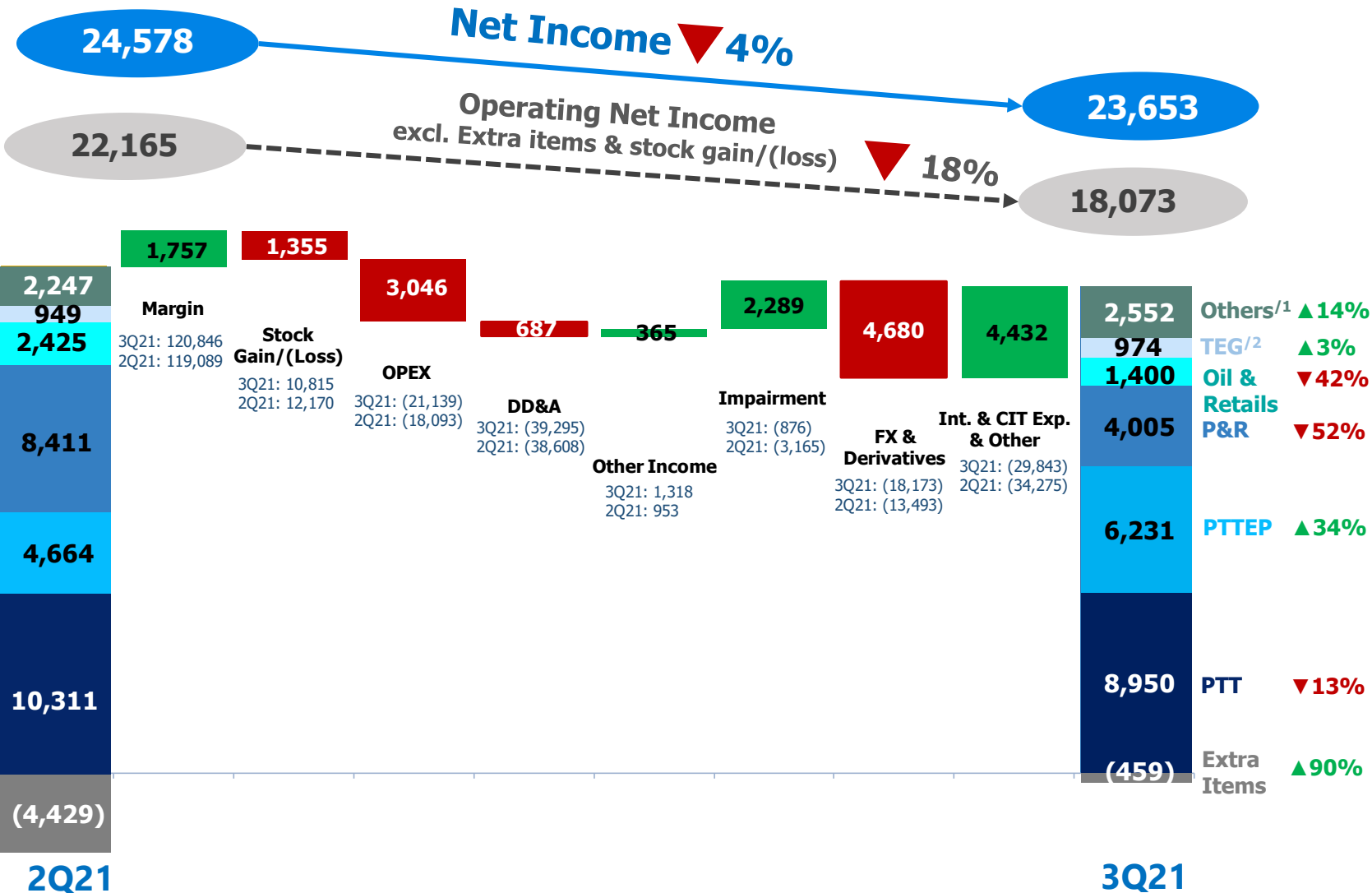
9M21 vs 9M20 ▲

- + Higher shares of profit from XPCL due to drought situation last year
- Lower gross profit
 - Lower gross profit of IPP due to unplanned outage of GHECO-One
- + SPP's gross profit slightly increased from recovered demand of industrial customers

3Q21 vs 2Q21 PTT Consolidated Performance (QoQ):

NI slightly declined from impact of Covid-19 Delta variant while upstream and gas remained resilient

MMTHB



Extra Items*

3Q21 : PTT's write-off on obsolete materials and supplies of 702 MB and TOP's gain on divestment of UBE 233 MB
2Q21 : GC's Emery Oleochemicals impairment of 1,463 MB, tax from selling stakes of GPSC 2,264 MB, and PTT's reverse gain from LNG reloaded 580 MB

Others

+ **PTTT**: Improved out-out margin of crude and petroleum products
+ **PTTNGD**: Higher industrial selling price referenced to FO
↔ **Coal**: Increased in selling prices, and sales volume due to higher demand from energy shortage crisis offset with increased income tax and hedging loss

TEG (mainly from power)

+ Increased in shareholding in GPSC despite lower GPSC's performance from IPP & SPP's outages and rising fuel cost

Oil & Retail

- Both oil and non-oil have decreased sales volume and gross margin impacted by from COVID-19 Delta variant

Petrochemical & Refining

- Lower sales volume from shutdown and higher crude premium
- Increased hedging loss despite higher Mkt GRM

Petrochemical

- **Olefins**: Lower PE prices and higher feedstock price
+ **Aromatics**: Increase in PX spreads from tight supply despite lower BZ spread

PTTEP

+ Lower loss from oil price hedging
+ Higher avg. selling prices from higher liquid gas prices
- Sales volume dropped from Bongkot, MTJDA, and Yadana project

PTT

Gas

+ **GSP**: Higher avg. selling prices mainly from LPG and propane while there was major turnaround of GSP#6
+ **S&M**: Higher industrial selling price referenced to FO despite lower gas sales volume

Trading

+ Higher domestic condensate margin

Higher loss on FX due to more Baht depreciation

Remark:

1/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.

2/ Technology and Engineering business mainly contributed from power business

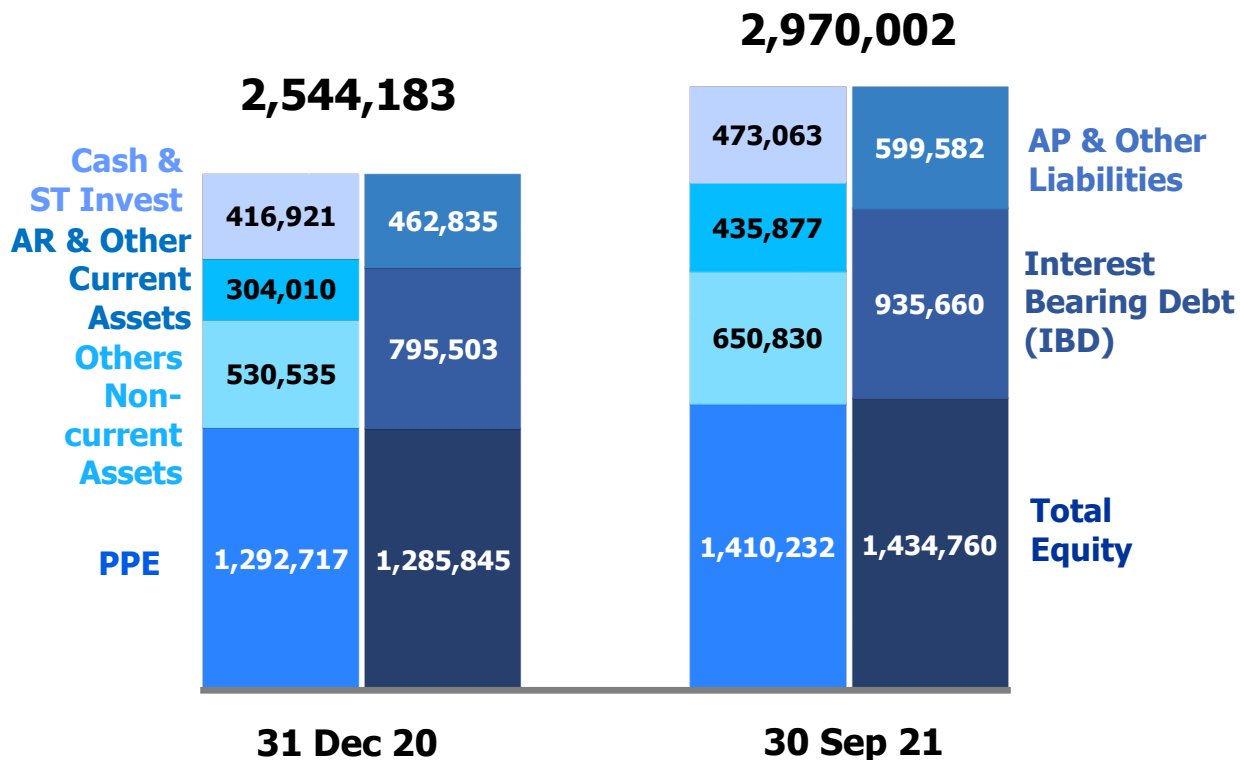
Financial Position

Strong Balance Sheets maintained credit ratings

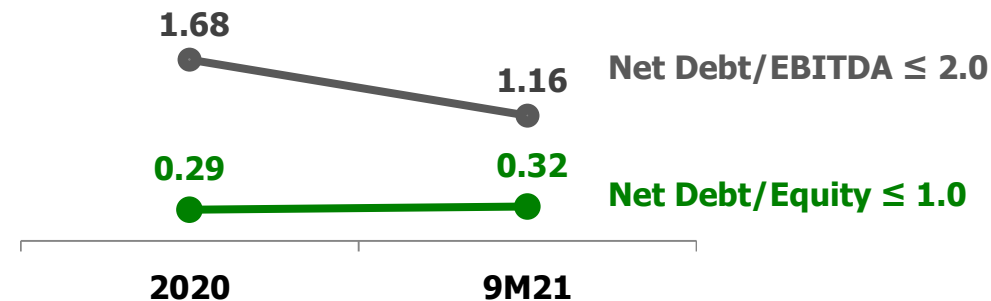
Consolidated Balance Sheets

MMTHB

▲ 17%



Key Financial Ratios

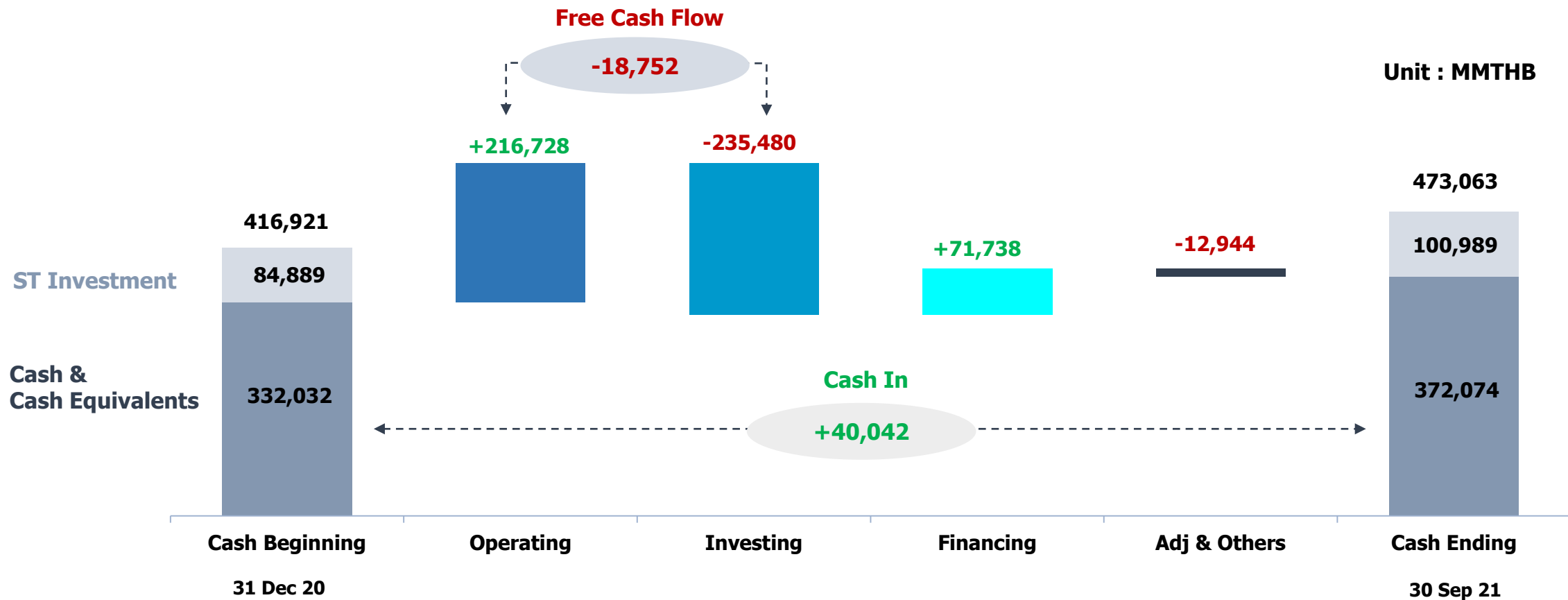


PTT Ratings at Sovereign Level

	Moody's	S&P Global Ratings	Fitch Ratings
Foreign Currency	Baa1	BBB+	BBB+
Local Currency	Baa1	BBB+	BBB+

- + **Increase in Inventories and Account Receivables** from the higher product prices
- + **Increase in Long-term investments** from TOP's investment in CAP and GPSC's investment in Avaada
- + **Higher PPE** from PTTEP's business acquisition of Oman Block 61 and TOP's construction in progress of Clean Fuel Project
- + **Increase in Equity** due to PTT group's net profit and OR's capital increase
- + **Higher Interest Bearing Debt (IBD)** from increase in long-term borrowing mainly from PTT, GC, and TOP

PTT Consolidated Cash Flows 9M21



Operating	216,728
Non-Cash Adjustment	237,581
Net Income	80,819
Changes in Assets & Liabilities	(57,314)
Income Tax	(44,358)

Investing	(235,480)
Investment (Sub. & Affiliates)	(119,505)
CAPEX	(100,647)
Current Investment	(12,521)
Others *	(7,777)
Dividend/Interest Received	4,970

Financing	71,738
Received from Loans/Bonds	160,229
Ordinary Share Issuance of Subsidiaries	55,152
Loan Repayment	(78,050)
Dividend Paid	(43,406)
Finance Cost Paid	(22,050)
Derivatives	(137)

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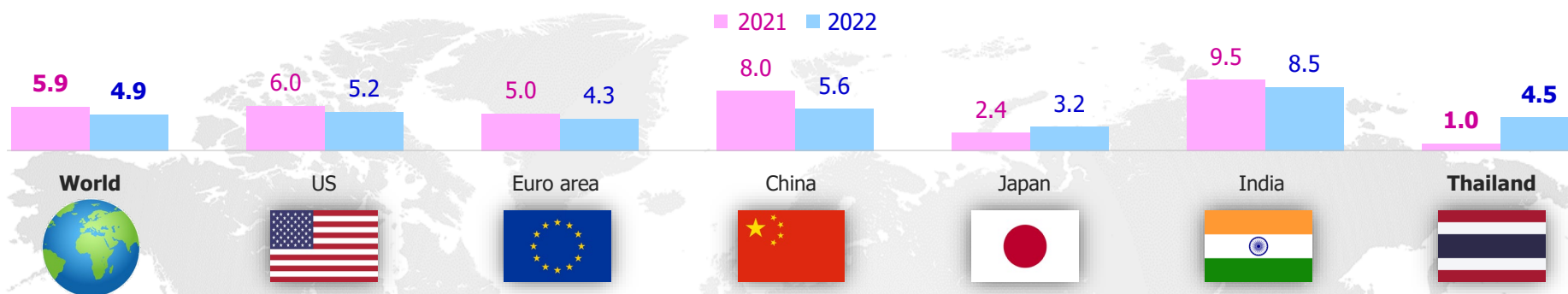
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Outlook

Global Economic Outlook:

Global Recovery Continues but Momentum Has Weakened, Hobbled by the Pandemic

IMF Forecast – GDP Growth (%)



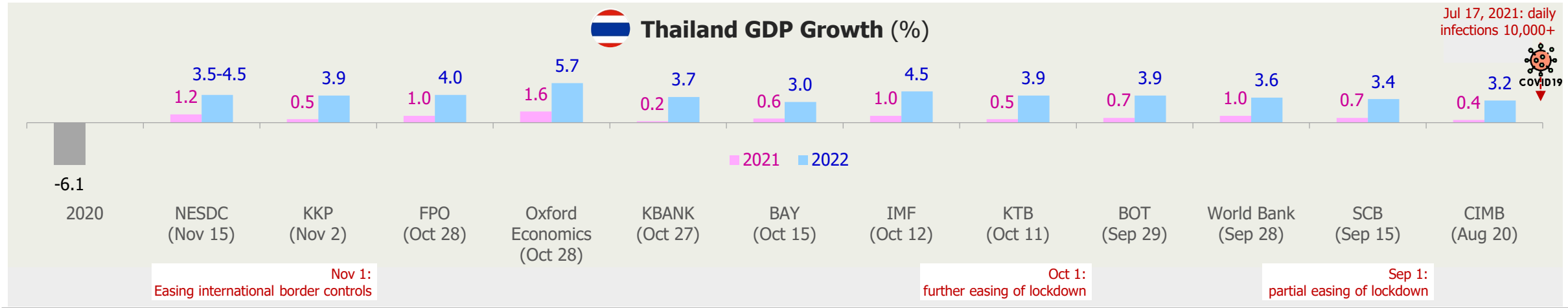
- + Improving access to vaccines and therapies, with most countries to acquire broad vaccine access by end-2022
- + Sizable fiscal support in advanced economies, especially in the US amid investment plans to upgrade dilapidated infrastructure and hasten green energy transition, with associated spillovers to trading partners
- + Financial conditions remaining broadly supportive and attuned to the recovery
- + Stronger near-term prospects for some commodity exporters on the back of rising commodity prices



- Country prospects continuing to diverge due to great vaccine divide amid constraints on vaccine availability and vaccine hesitancy, and large disparities in policy support
- Pandemic outbreaks in critical links of prolonged supply chain disruptions pointing to shortages of key inputs, alongside pent-up demand and rising commodity prices, further feeding consumer price inflation (especially in the US and Germany), adding risks to economic prospects and more complex policy trade-offs

Thailand Economic Outlook:

Growth to Continue to Be Held Back by the Pandemic until Heard Immunity Is Reached



- + **Merchandise exports so far providing substantial support to the Thai economy** (expected growth of 14 to 16.8% in 2021 vs. 17.9% in Jan-Sep'21, 3.7 to 5% in 2022), driven by recovering global demand for automotive parts, electronics, refined petroleum, and agricultural products
- + **Domestic restrictions and international border controls continuing to be eased**, gradually restarting tourism (number of foreign tourists expected 0.16 to 0.23 mn in 2021 vs. 0.09 mn in Jan-Sep'21, 1.7 to 7 mn in 2022)
- + **Fiscal stimulus and accommodative monetary policy to support the economic recovery**

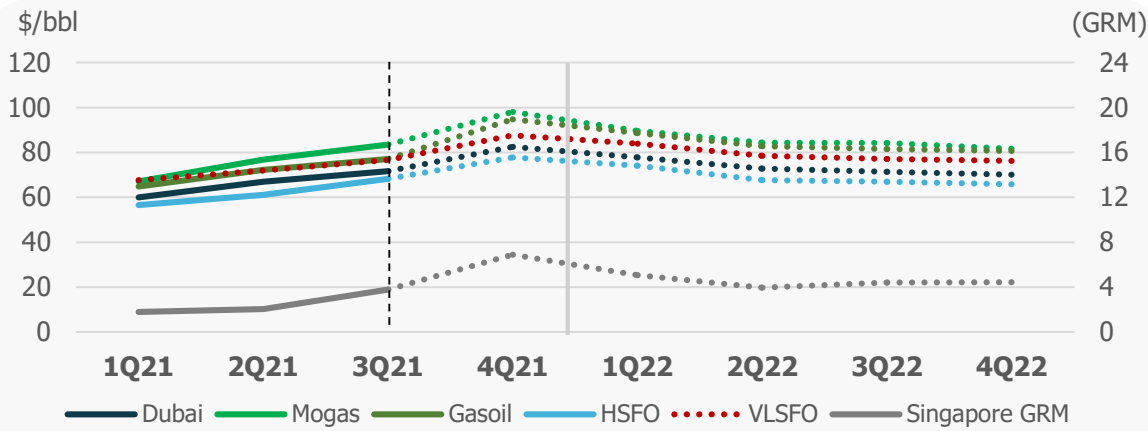


- **High COVID-19 case counts, amid low full vaccination rate** (51% of population fully vaccinated, as of Nov 15), continuing to weigh on confidence and private consumption (expected growth of -0.8 to 1.2% in 2021 vs. 0.4% in Jan-Sep'21, 2.8 to 5.7% in 2022)
- **Supply chain disruptions, logistical delays, and a slowdown in China to affect export growth**
- **GDP to not return to the pre-pandemic level until at least end-2022**

2022 Petroleum and Gas Outlook



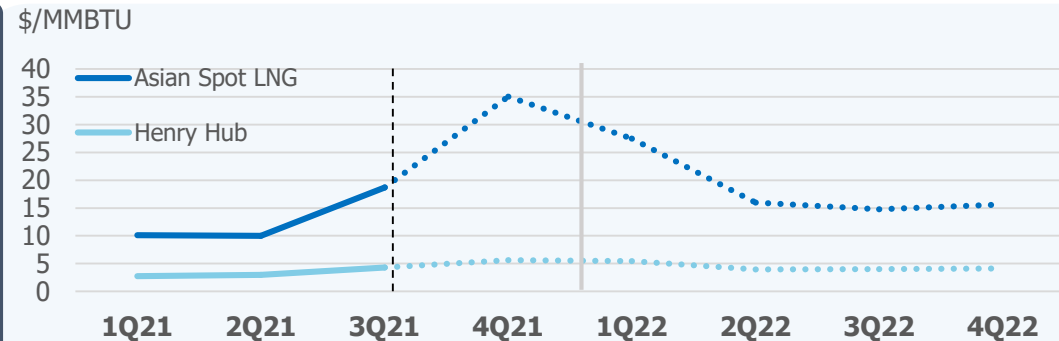
Petroleum



Price	2Q21	3Q21	9M20	9M21	2021(E)	2022(E)
Dubai	66.9	71.7	41.4	66.2	68-73	71-76
Mogas	76.8	83.4	46.0	75.8	79-84	82-87
Gasoil	72.2	77.1	48.4	71.3	75-80	81-86
HSFO (3.5%S)	61.1	68.3	37.6	62.0	63-68	66-71
VLSFO (0.5%S)	71.9	76.6	48.8	72.1	73-78	76-81
Singapore GRM	2.1	3.8	0.1	2.5	3.1-4.1	4.0-5.0

Source: PTT, PRISM Petroleum Rolling as of October 2021

Gas/LNG



Price	2Q21	3Q21	9M20	9M21	2021(E)	2022(E)
Asian Spot LNG	10.0	18.7	3.1	13	15.5	17.8
Henry Hub (HH)	3.0	4.3	1.9	3.4	3.6	4.0

▲ Dubai

- + **Recovered demand** driven by a rise in economic activity and vaccination campaigns
- + **Higher demand of power sector from gas-to-oil switching** on the back of high LNG prices
- + **OPEC+ decided to maintain a gradual increase in production** by 0.4 MBD every month
- **Supply recovery from OPEC+, Iran, and US** due to higher price and new budget year 2022

▲ Mogas

- + **Increasing demand** as COVID-19 situation stabilizes and restrictions are lifted
- + **Low inventory level** in U.S. and Europe
- **Rising supply from higher refinery utilization rate** along with recovered demand

▲ Gasoil

- + **Demand recovery from the industrial and transportation sectors**
- + **High natural gas prices and coal shortages** have incentivized the use of diesel generators
- + **Lower Chinese export** from improved domestic demand and **tighter government mandates to reduce carbon emission** such as Dual control policy
- Rising supply from higher utilization rate along with recovered demand from Dec'21 onwards

▲ Fuel Oil

- HSFO:** + Firm **power demand in South Asia** and the **utility demand during winter**
 - **Easing supply from OPEC+** (High heavy distillate yield)
- VLSFO:** + Improved **bunker demand** and incremental **heating demand** amid high LNG price
 - Easing supply from **higher utilization rate and new capacity** from Kuwait

▲ Singapore GRM

- + **Improved** due to the continued **strength of the light distillate and middle distillate spreads**

▲ Gas/LNG

Asian Spot LNG:

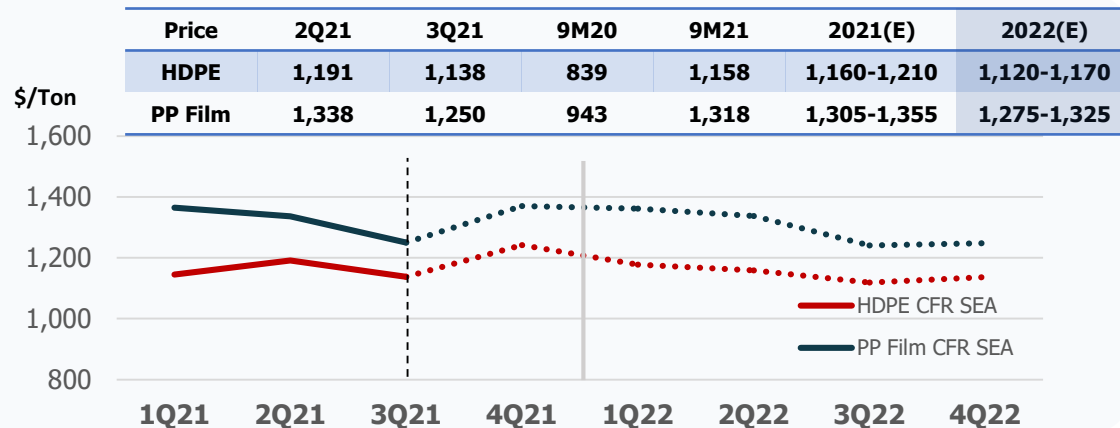
- + **low European gas inventory level**, strong demand to prepare for the winter
- + **Global trend to replace fossil fuel** to cleaner energy driving more demand for LNG especially, China

Henry Hub:

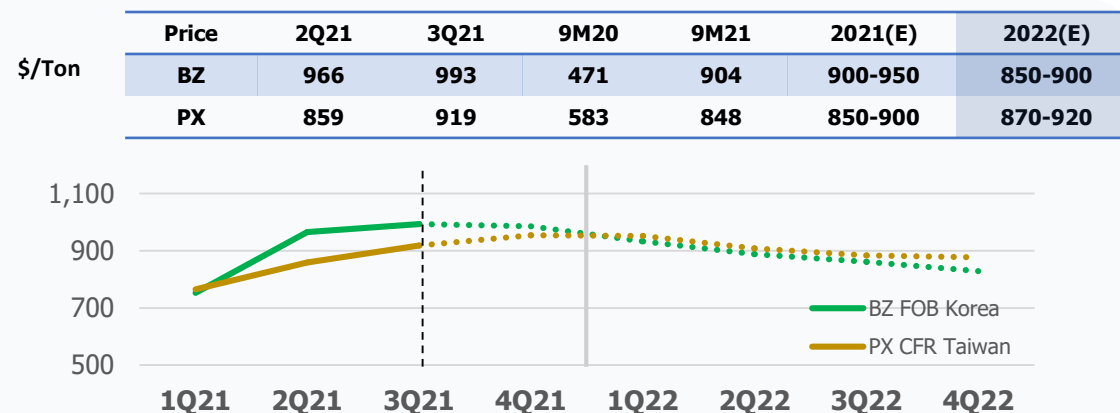
- + Higher demand following the recovery of economic activities and **easing of COVID-19 situation in US**

2022 Petrochemical Outlook

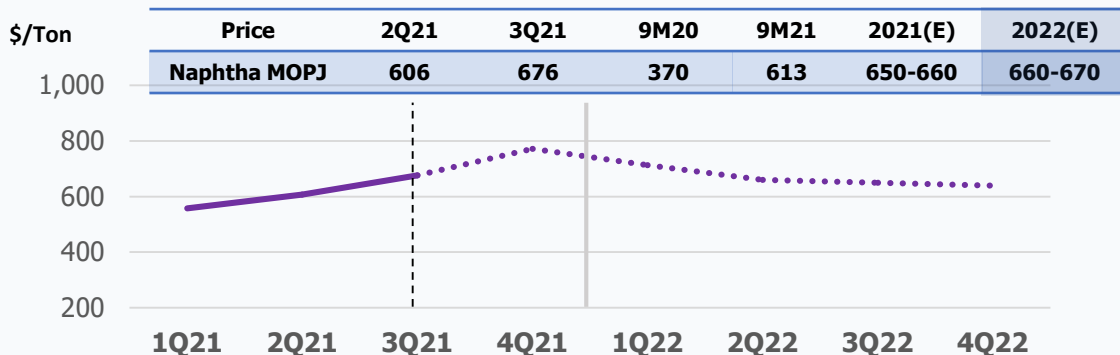
Olefins



Aromatics



Naphtha



▼ Olefins

- **Incoming additional Asian capacities** from Northeast Asia and Southeast Asia especially China in 4Q2021-Y2022
- **Chinese government's coal intervention** and **Easing US export supply** to put pressure on Asian market sentiment until Y2022
- + **Chinese tight supply** from power outage and run rates reduction as a result of dual energy control policy
- + **Expected demand recovery** according to brighter economic prospects and vaccination campaigns to support olefins prices in 4Q2021 - Y2022

▼ Aromatics

- **Incoming additional Asian capacities** from Northeast Asia and Southeast Asia especially China in 4Q2021-Y2022
- **Dual energy control policy** and **Crude import quota** to put pressure on Asian market sentiment in Y2022
- + **Expected more balanced BZ/PX markets** from new downstream demand, economic recovery in 4Q2021-Y2022

▲ Naphtha

- + **Demand recovery in 2022**
- + **Low-to-no LPG substitution level amid high LPG prices**
- **Expectation on easing supply from higher refinery runs** due to better COVID-19 situation

PTT Group Guidance

4Q21

Gas business outlook



Higher Pooled gas price

↑ 20-25% QoQ


Stable Domestic Gas demand
compared to 3Q21



Project COD

 **Non-woven Fabric Plant (Innopolymed)**
: 2.1 KTA COD: Dec 2021

Planned Shutdown

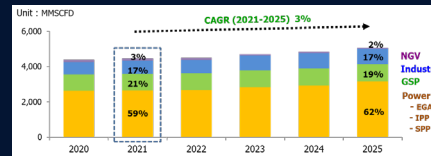
 **GSP#3 SD & ESP TD 60%: 6 days**
GSP#6 SD : 9 days

 **Ethane Crackers**
Olefex : ~1 month

2022

Business Outlook in 2022

E&P : Improve crude oil price with competitive cost
GAS : + Domestic gas demand slightly increase despite higher gas cost compared to 2021



CAGR 3.0 % during 2021 -2025)

OIL : + Resuming domestic demand
+ Strong network through expanding both of the oil and retail business

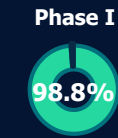
P&R : + Refinery
: Improving Demand after the easing lockdown in Asia (SG GRM → 4.0 – 5.0\$/bbl)
: PTT Group U-Rate ~94–97%
- Petchem : more capacities addition from new plants will pressure the product prices

Power : Recover domestic electricity consumption

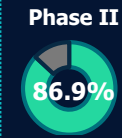
New Energy : +Expansion of EV charger
(Arun+ +1,350 units & OR +~200 stations)
+FID - EV Platform (JV with Foxconn)

Upcoming project

5th Pipeline



COD: Dec 2021

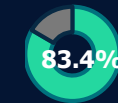


COD: Jan 2022

Phase III
In the process of preparing to construct
To COD in Dec 2022



LNG Terminal#2



Full COD: Dec 2022

High-quality Circular Plastic Resin Plant

: 45 KTA



COD: 1Q2022

Avaada Solar Power Platform in India :

4,560 MW - GPSC hold 41.6%
(1,500 MW in operating / 3,060 MW in progress)



COD: 4Q2021-2022

Maintenance Schedule

Gas Separation Plants



2Q: **ESP Major TA & GSP#2&3 TD** : 23 days
4Q: **GSP#5 SD** : 15 days

Petrochemical & Refinery Plants



2Q: **Ole 3 & ARO I Major TA** : ~1 month
4Q: **Ole 2/2 & HDPE Major TA** : ~1 month

Refinery Plant Major TA : 50 days



4Q: **Refinery Plant Major TA** : ~1 month

Thank you



PTT Public Company Limited Investor Relations Department

Questionnaire



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Disclaimer

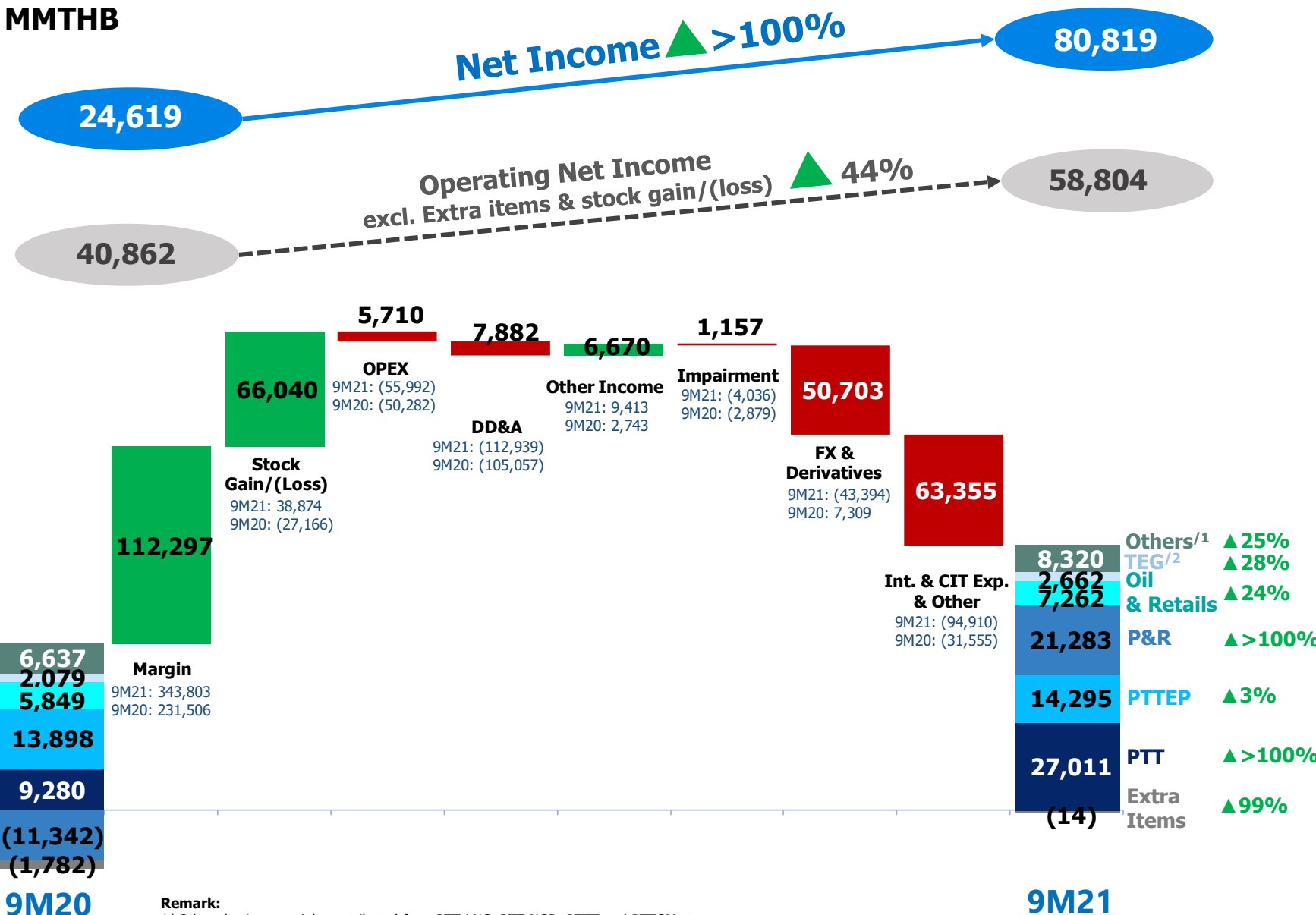
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The information contained in this presentation is subject to change without notice and PTT does not undertake any duty to update the forward-looking statements, and the estimates and assumptions associated with them, except to the extent required by applicable laws and regulations.

9M21 vs 9M20 PTT Consolidated Performance (YTD):

Escalated performance driven from most of PTT Group Businesses

MMTHB



Extra Items*

(*PTT's portion net tax amount)

9M21 : EP: Gain on bargain purchase of Oman Block 61 7,033 MB, offset write-off assets in Brazil 2,909 MB
GC: Emery Oleochemicals impairment of 1,463 MB, and tax from selling stakes in GPSC 2,264 MB

9M20 : EP: Mariana Oil Sands impairment of 925 MB
PTTGM: Coal mining impairment of 857 MB

Others

Coal: Higher margin due to increased selling prices following Newcastle coal price

PTTNGD: Higher industrial selling price referenced to FO

TEG (mainly from power)
+ Higher share of profits from XPCL due to higher water level

Oil & Retail

+ Improved oil margin

- Lower oil volume due to Covid-19 impact

- Non-oil was pressured from Covid-19 lockdown

Petrochemical & Refining

Refinery

+ Higher stock gain in 9M21

+ Higher mkt GRM mainly from gasoline spread

- Lower sales volume from lower demand

Petrochemical

+ Olefins: Improved product prices and sales volume

+ Aromatics: Increased in BZ & PX spreads and sales volume

PTTEP

+ Higher sales vol. from Oman Block 61 acquisition, Bongkot, Contract4, and Malaysia project

+ Higher avg. Selling price from liquid prices increased

PTT

Gas

+ **GSP:** Higher avg. selling prices, sales volume, and lower feed gas cost

+ **S&M:** Higher industrial customers' selling price linked to FO price, lower pooled gas cost, and higher gas sales vol. from most of customers

Trading

+ Higher domestic condensate margin despite lower sales volume

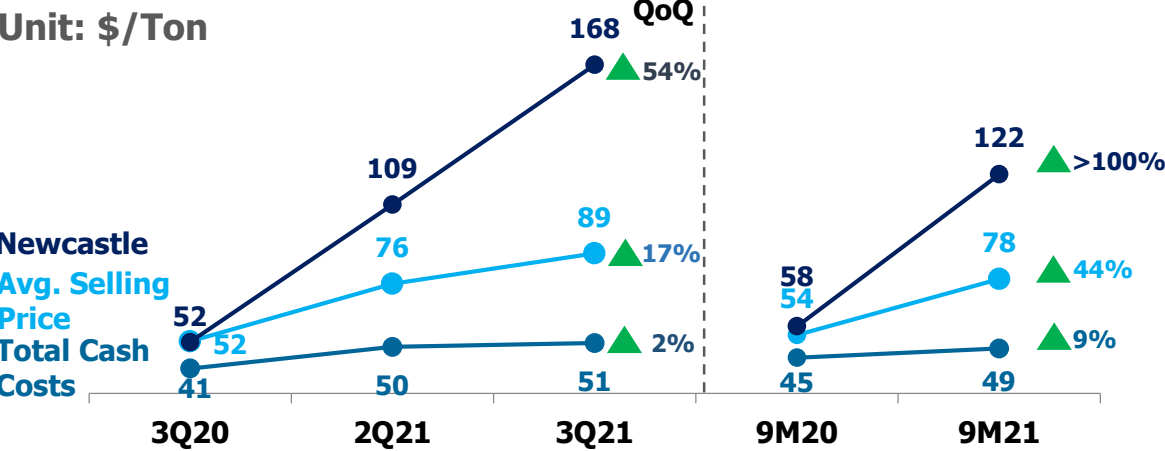
Remark:

1/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.
2/ Technology and Engineering business mainly contributed from power business

Other Business : Coal business (SAR)

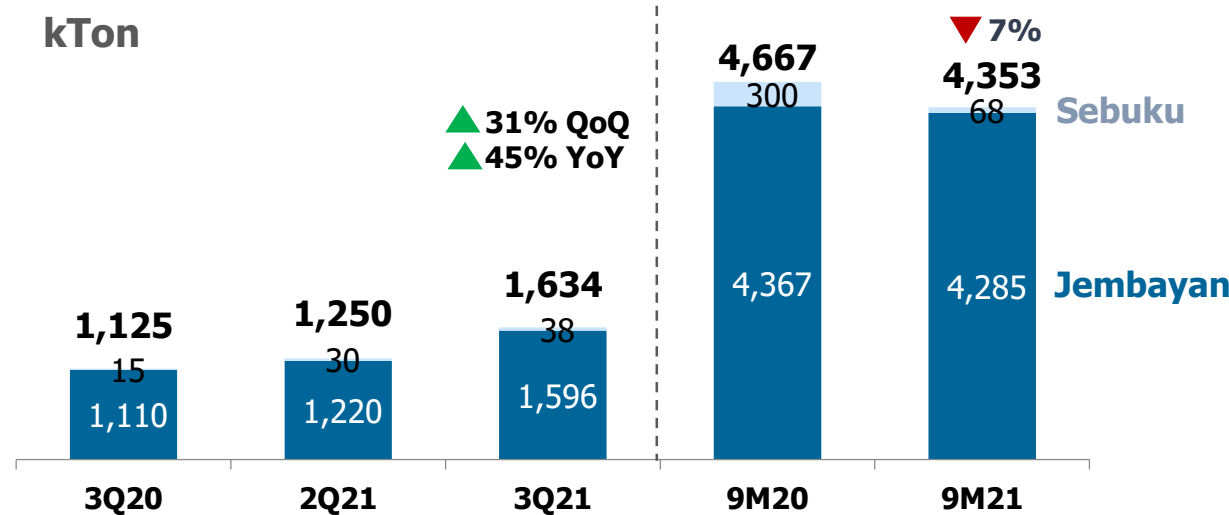
QoQ: NI flat due to rising selling price and sales volume offsetting with higher income tax and hedging loss
 9M21 vs 9M20: NI increased from higher selling prices referenced to Newcastle price surged and lower DD&A

Avg. Selling Price^{1/} & Cash cost^{1/}

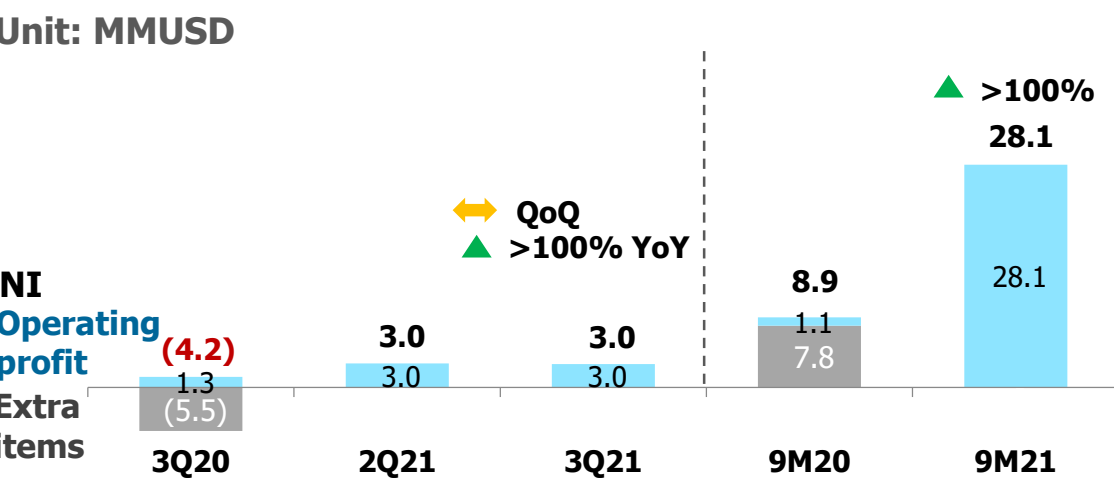


^{1/} Average Calorific value ~ 5,400 kcal/kg

Sales Volume



Net Income (100%)



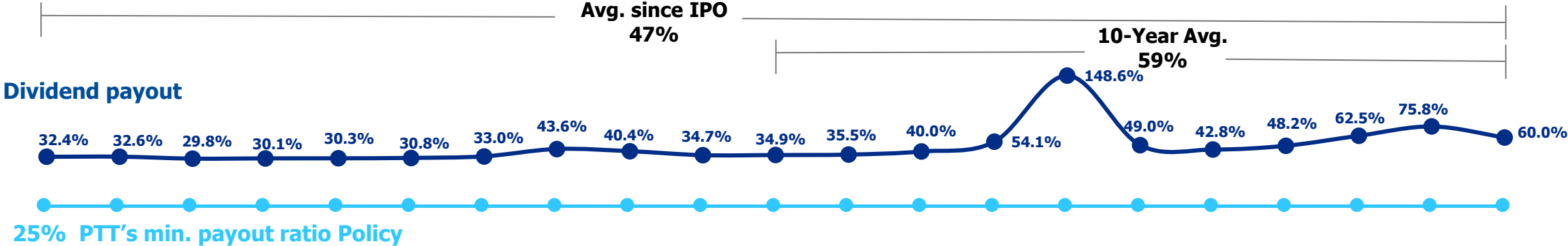
Key Highlights

- QoQ** ↔
- + Selling price increased due to escalated Newcastle price
 - + Higher sales volume from higher China's demand due to energy shortage crisis
 - NI flat resulted from increased operating margin offset with higher income tax and commodity hedging loss
- 9M21 vs 9M20** ▲
- + Selling price largely improved following referenced Newcastle price
 - Sales volume dropped from lower production plan and ceased operation of the Sebuiku coal mine
 - + NI improved mainly from sharply increased selling prices and lower DD&A from impairment of assets in 2020

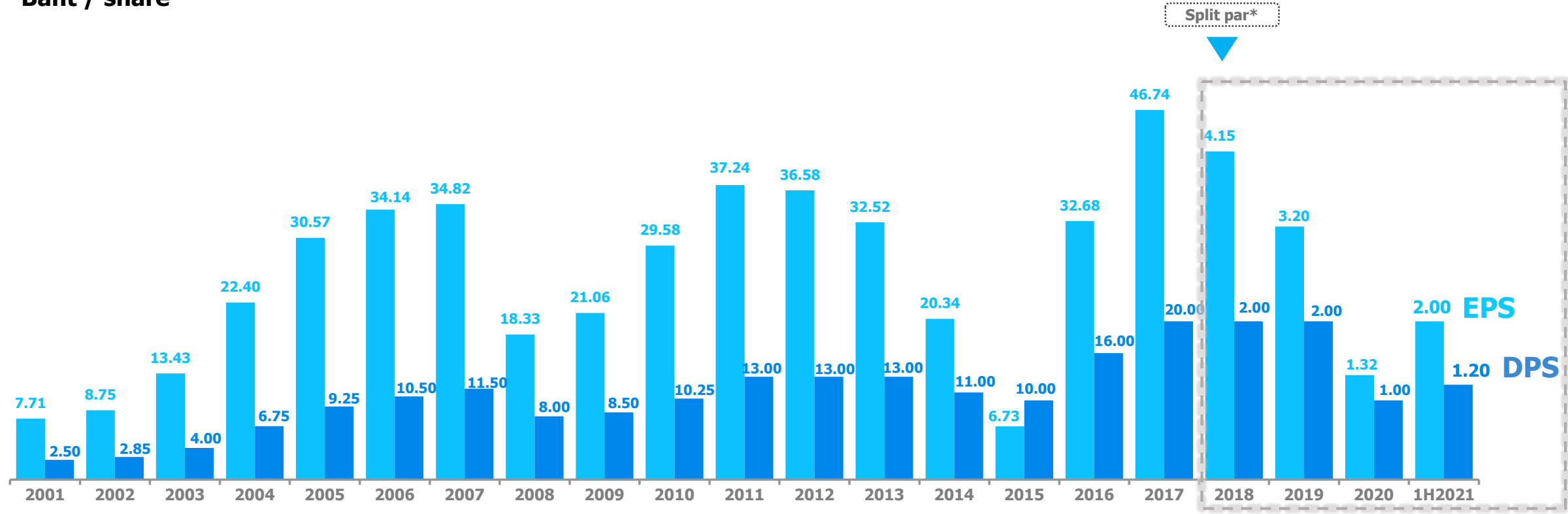
Dividend Policy & Historical Payments



1H2021 Dividend payout at 60.0%

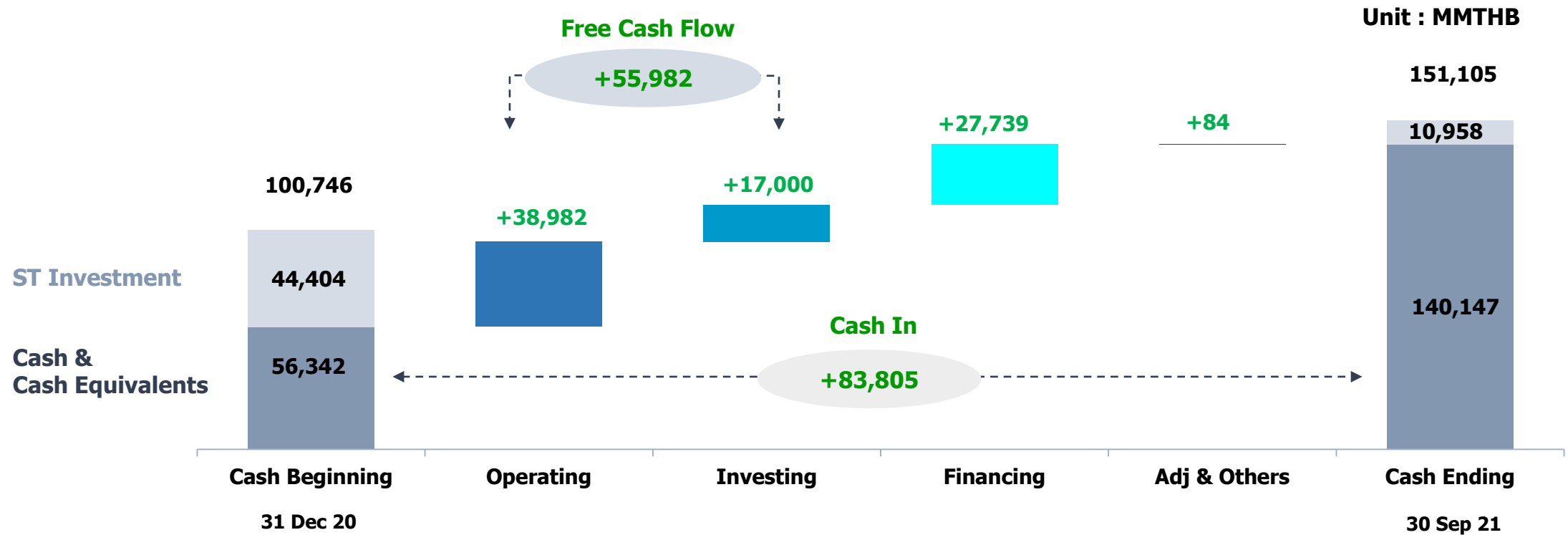


Baht / share



* Split par value from 10 to 1 Baht/share since 24 April 2018

PTT Only Cash Flows 9M21



Operating	38,982
Net Income	58,643
Changes in Assets & Liabilities	(12,120)
Income Tax	(6,997)
Non-Cash Adjustment	(544)

Investing	17,000
Dividend/Interest Received	35,018
Current Investment	31,068
Investment (Sub. & Affiliates)	(29,259)
Others*	(13,226)
CAPEX	(6,601)

Financing	27,739
Received from loans/Bonds	52,953
Loan Repayment	3,124
Dividend Paid	(23,421)
Finance Cost Paid	(4,874)
Others	(43)

PTT Group Performance : 3Q2021 (QoQ & YoY)



Unit : MMTHB	Performance 100%					% PTT holding	Equity Method % PTT				
	3Q20	2Q21	3Q21	QoQ	YoY		3Q20	2Q21	3Q21	QoQ	YoY
PTT Net operating Income	2,601	9,595	8,250	-14%	>100%		2,601	9,595	8,248	-14%	>100%
E&P - PTTEP	7,202	7,139	9,545	34%	33%	65.29%	4,603	4,664	6,231	34%	35%
<u>Petrochemical</u>	994	25,114	7,083	-72%	>100%		475	1,469	3,545	>100%	>100%
- GC	908	25,035	7,005	-72%	>100%	48.18%	389	1,390	3,467	>100%	>100%
- Other	86	79	78	-1%	-9%		86	79	78	-1%	-9%
<u>Refining</u>	2,271	6,697	4,217	-37%	86%		1,312	3,215	693	-78%	-47%
- TOP	715	2,123	2,062	-3%	>100%	48.03%	599	1,006	(337)	<-100%	<-100%
- IRPC	1,556	4,574	2,155	-53%	38%	48.05%	713	2,209	1,030	-53%	44%
<u>Oil</u> - OR	3,450	3,225	1,893	-41%	-45%	75.00%	3,426	2,439	1,410	-42%	-59%
<u>TEG</u> - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	3,517	2,704	2,263	-16%	-36%		874	949	974	3%	11%
<u>Others Business</u>	1,624	2,824	3,358	19%	>100%		1,509	2,245	2,552	14%	69%
<u>Inter</u> - PTTER/PTTGM	(988)	345	538	56%	>100%	100%	(878)	3	36	>100%	>100%
<u>Gas</u> - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	2,298	2,282	2,427	6%	6%		2,073	2,039	2,118	4%	2%
<u>Other</u> - PTTT/Others ^{1/}	314	197	393	99%	25%		314	203	398	96%	27%
Shared of Net Income from Affiliates	19,058	47,703	28,359	-41%	49%		12,199	14,981	15,405	3%	26%
Tax adjustment for gain on disposal of investment and asset	(680)	2	-	-100%	100%		(680)	2	-	-100%	100%
PTT Conso. Net Income	20,979	57,300	36,609	-36%	75%		14,120	24,578	23,653	-4%	68%

1/Including PTTGE,BSA, PTT TCC and RTC

PTT Group Performance : 9M21 vs 9M20



Unit : MMTHB	Performance 100%			% PTT holding	Equity Method % PTT		
	9M20	9M21	9M21 VS 9M20		9M20	9M21	9M21 VS 9M20
PTT Net operating Income	9,280	26,343	>100%		9,280	26,341	>100%
E&P - PTTEP	20,137	28,218	40%	65.29%	13,122	18,419	40%
<u>Petrochemical</u>	(5,990)	41,975	>100%		(2,717)	9,689	>100%
- GC	(6,205)	41,735	>100%	48.18%	(2,933)	9,449	>100%
- Other	215	240	12%		216	240	11%
<u>Refining</u>	(18,319)	19,855	>100%		(8,707)	8,100	>100%
- TOP	(10,559)	7,545	>100%	48.03%	(5,025)	2,284	>100%
- IRPC	(7,760)	12,310	>100%	48.05%	(3,682)	5,816	>100%
<u>Oil</u> - OR	5,868	9,121	55%	75.00%	5,849	7,288	25%
<u>TEG</u> - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	8,319	22,002	>100%		2,079	2,662	28%
<u>Others Business</u>	7,317	9,667	32%		6,807	8,018	18%
<u>Inter</u> - PTTER/PTTGM	(519)	1,414	>100%	100%	(709)	532	>100%
<u>Gas</u> - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	6,116	6,964	14%		5,796	6,186	7%
<u>Other</u> - PTTT/Others ^{1/}	1,720	1,289	-25%		1,720	1,300	-24%
Shared of Net Income from Affiliates	17,332	130,838	>100%		16,433	54,176	>100%
Tax adjustment for gain on disposal of investment and asset	(1,094)	302	>100%		(1,094)	302	>100%
PTT Conso. Net Income	25,518	157,483	>100%		24,619	80,819	>100%

1/Including PTTGE,BSA, PTT TCC and RTC

PTT Group Accounting Structure



Data as of 30 Sep 2021

E&P and Gas Business Group			International Trading Business Group			Petrochemicals & Refining Business Group		
Subsidiaries PTT Exploration & Production Plc. PTTEP 65.29% ^{2/} PTT Natural Gas Distribution Co., Ltd. PTTNGD 58.00% PTT LNG Co., Ltd. PTTLNG 100.00% PTT Global LNG Co., Ltd. PTTGL 50.00%			Subsidiaries PTT International Trading Pte. PTTT 100.00% PTT International Trading London Ltd PTTT LDN 100.00% PTT International Trading USA Inc. PTTT USA 100.00%			Petrochemical Subsidiaries PTT Global Chemical Plc. ^{1/} GC 48.18% ^{2/} PTT Tank Terminal Co., Ltd. PTTTANK 100.00%		
Joint Ventures Trans Thai-Malaysia (Thailand) Co., Ltd. TTM (T) 50.00% Trans Thai-Malaysia (Malaysia) Sdn. Bhd. TTM (M) 50.00% Map Ta Phut Air Products Company Limited MAP 49.00%			Oil Business Group Subsidiaries PTT Oil & Retail Business Co., Ltd. OR 75.00%			Refining Subsidiaries Thai Oil Plc. ^{1/} TOP 48.03% ^{2/} IRPC Plc. ^{1/} IRPC 48.05% ^{2/}		
Technology and Engineering Business Group			International Investment Business Group			Others		
Subsidiaries Global Power Synergy Co., Ltd. ^{1/} GPSC 75.23% ^{2/} PTT Digital Solutions Co., Ltd. ^{1/} PTT DIGITAL 20.00% PTT Energy Solutions Co., Ltd. ^{1/} PTTES 40.00% Energy Complex Co., Ltd. EnCo 50.00%			Subsidiaries PTT Energy Resources Co., Ltd. PTTER 100.00% PTT Green Energy Pte. Ltd. PTTGE 100.00% PTT Global Management Co., Ltd. PTTGM 100.00%			Subsidiaries Business Service Alliance Co., Ltd. ^{1/} BSA 25.00% ^{3/} PTT Treasury Center Co. Ltd. PTT TCC 100.00%		
Joint Ventures District Cooling System and Power Plant DCAP 35.00%			Joint Ventures Suez Environmental Services Co., Ltd. SES 40.00%			Joint Ventures Suez Environmental Services Co., Ltd. SES 40.00%		
Others Baania (Thailand) Company Ltd. Baania 2.73% HG Robotics Plc. HG Robotics 9.49% Innospace (Thailand) Innospace 13.61% Sunfolding, Inc. Sunfolding 5.59% Luminar Technologies, Inc. Luminar Technologies 0.06% Ample, Inc. AMPLE 1.16%			Others Sarn Palung Social Enterprise Company Ltd. SPSE 20.00% Dhipaya Group Holdings Pub Co., Ltd. TIPH 13.46%			Others Sarn Palung Social Enterprise Company Ltd. SPSE 20.00% Dhipaya Group Holdings Pub Co., Ltd. TIPH 13.46%		

Remark : ^{1/}Subsidiaries that PTT holds less than 50% but being consolidated because PTT has the power to control the financial and operating policies.

^{2/} Holding portion of PTT Group (direct & indirect)

^{3/} PTT holds 100.00% of BSA's ordinary shares, PTT's ownership interest in BSA is 100%

Debt Profile : Control Cost & Manage Risk

Managed debt according to financial risk and policy



Debt Portfolio

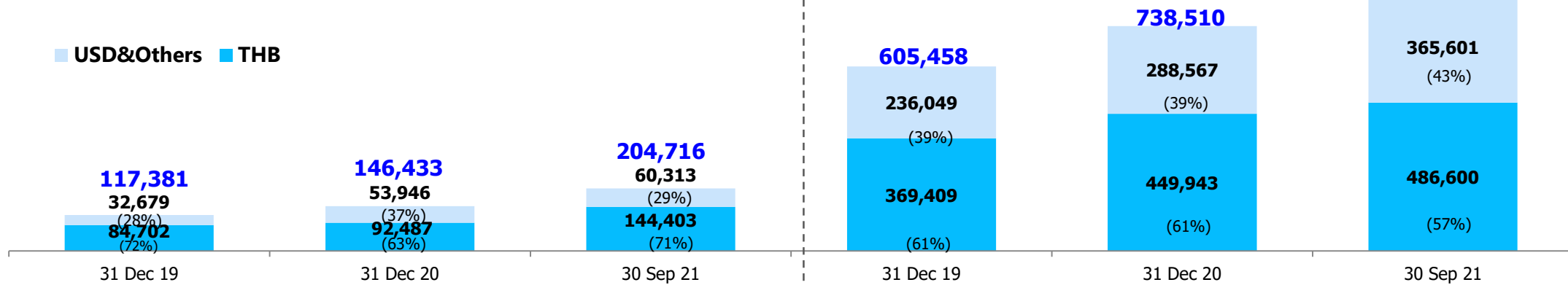
Unit : MMTHB

PTT Only : Cost of debts ~ 3.71%
: % fixed-rate ~ 75.24%
: Avg. debt life ~ 14.17 years

Consolidated : Cost of debts ~ 3.37%
: % fixed-rate ~ 70.59%
: Avg. debt life ~ 11.18 years

852,201

■ USD&Others ■ THB



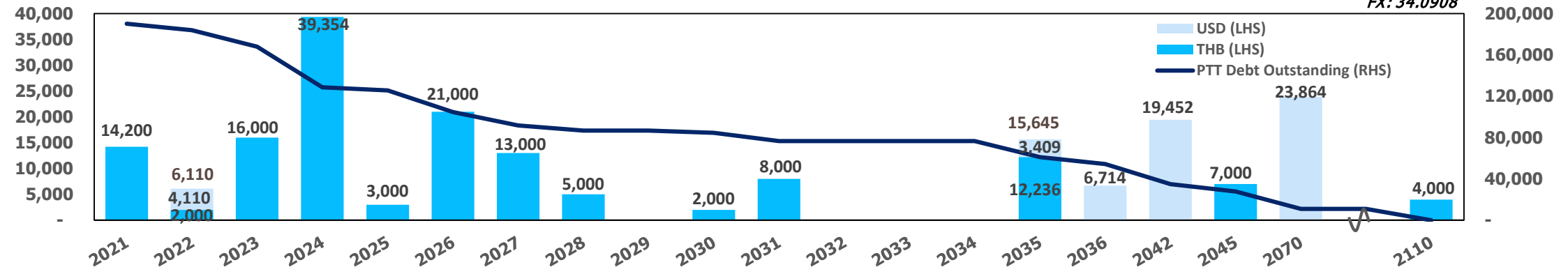
Note : 1. PTT Data as of 30 Sep 21 (THB/USD = 34.0908 THB/JPY = 0.3071) excluding liabilities from finance leases.
2. Debt Outstanding represents amount and portion before derivative swaps, and reconciled with accounting.
3. Cost of debts, % fixed rate, and avg. debt life took into account the derivative transactions, including withholding tax (update as of 30 Sep 21).

PTT Only : Debt Outstanding and Repayment Profile

Unit : MMTHB

As of 30 Sep 21

FX: 34.0908



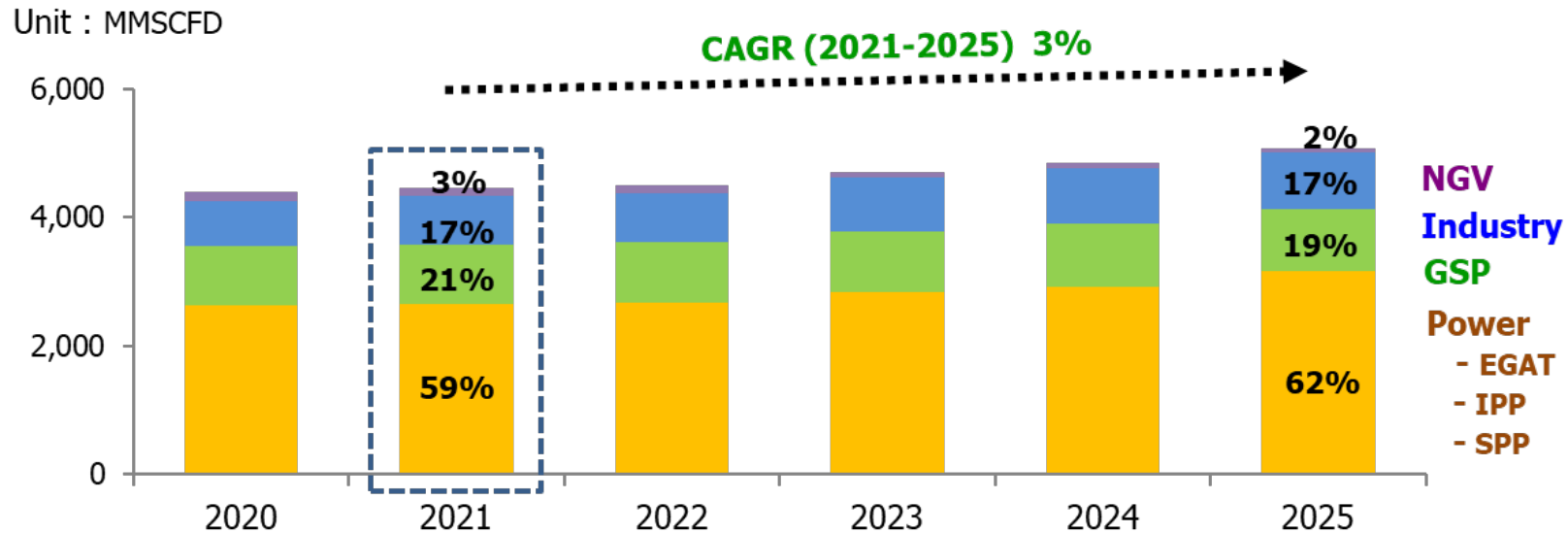
Note: 1. Debt Outstanding for Repayment Profile represents financial data and portion after derivative swaps
2. Bond repayment amounting 4,110 MB in 2022 is THB swaps to USD and amounting 6,236 MB in 2035 is USD swaps to THB

*PTTC10DA (Century Bonds) is due on 2 Dec 2110

Gas Business Roadmap

Short term Gas Demand growth be maintained

Thailand Gas Demand Outlook (Short Term – 5 year plan)



**New Supply
Additional capacity
(mmscfd)**

**Bongkot Erawan
700 800**

Major Project : COD & Capacity/ Accumulate Pipeline distance	5th pipeline RA#6 Pipeline	LNG Terminal 2	GSP#7*	BPK-SB** pipeline
	4,702 KM	+7.5 MTA	460 mmscfd	4,776 KM

*Replace GSP#1

**Bang Pakong– South Bangkok Power Plant

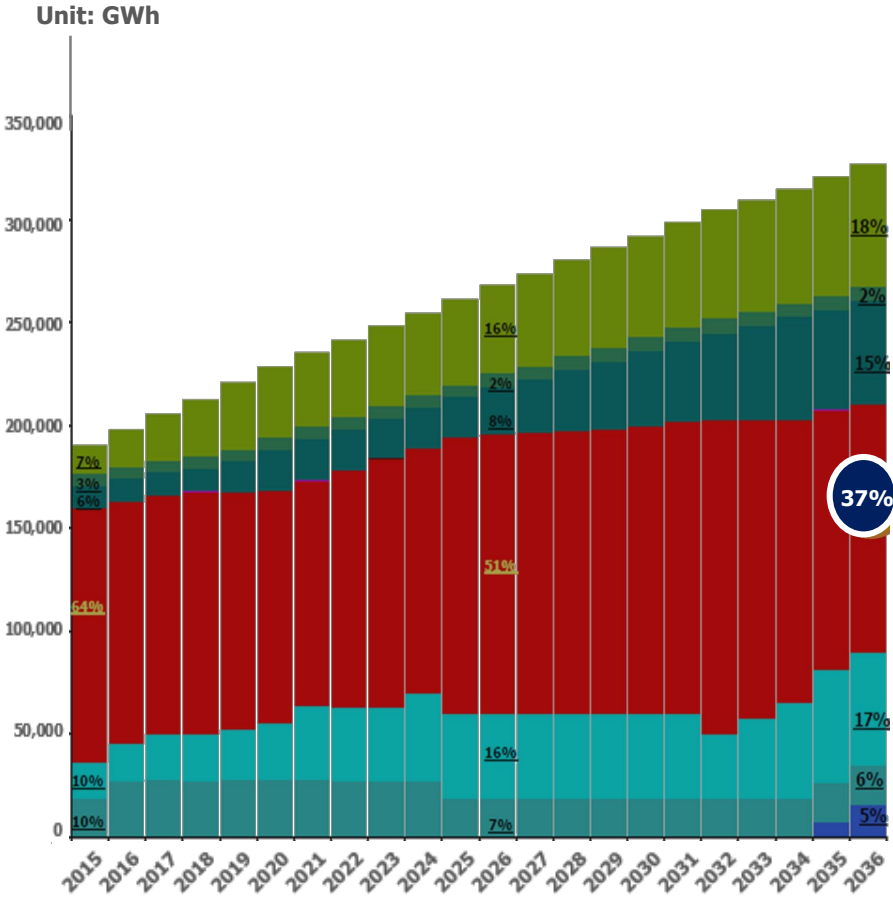
Newly Thailand Power Development Plan



Stronger demand of NG for power plants

PDP 2015*

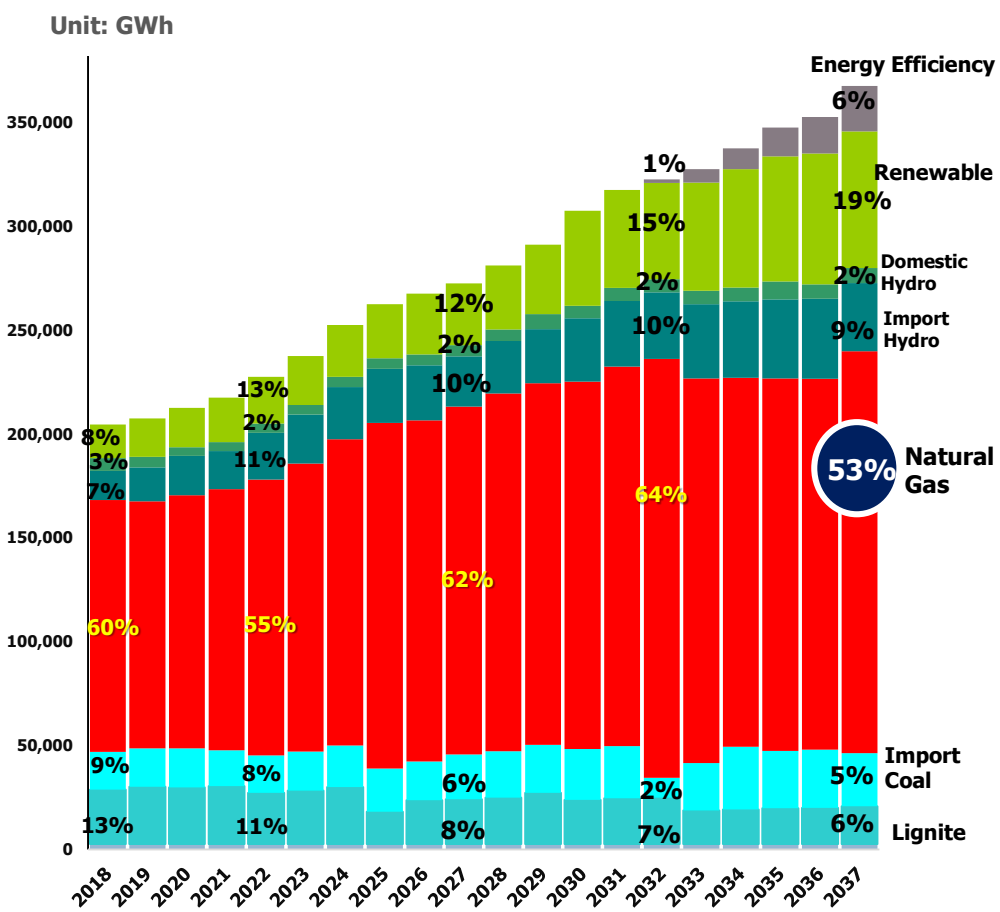
Natural Gas growth upon
Government fuel diversification policy
for power generation



*Source: Ministry of Energy

PDP 2018 Rev.1**

Natural Gas
be the most important source of energy
with highest portion among other fuels



** Source : EPPO (Public Hearing presentation)

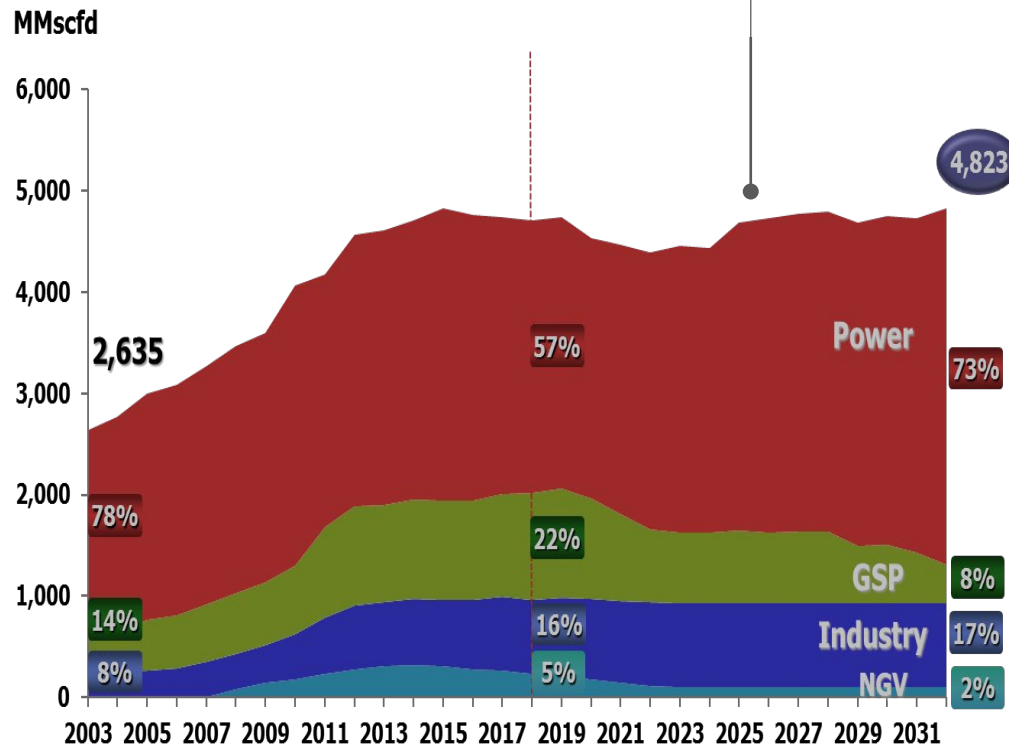
Natural Gas Demand

Growth of natural gas upon Government fuel diversification policy for power generation

Old*

Thailand Gas demand forecast (CAGR during 2018-2032)

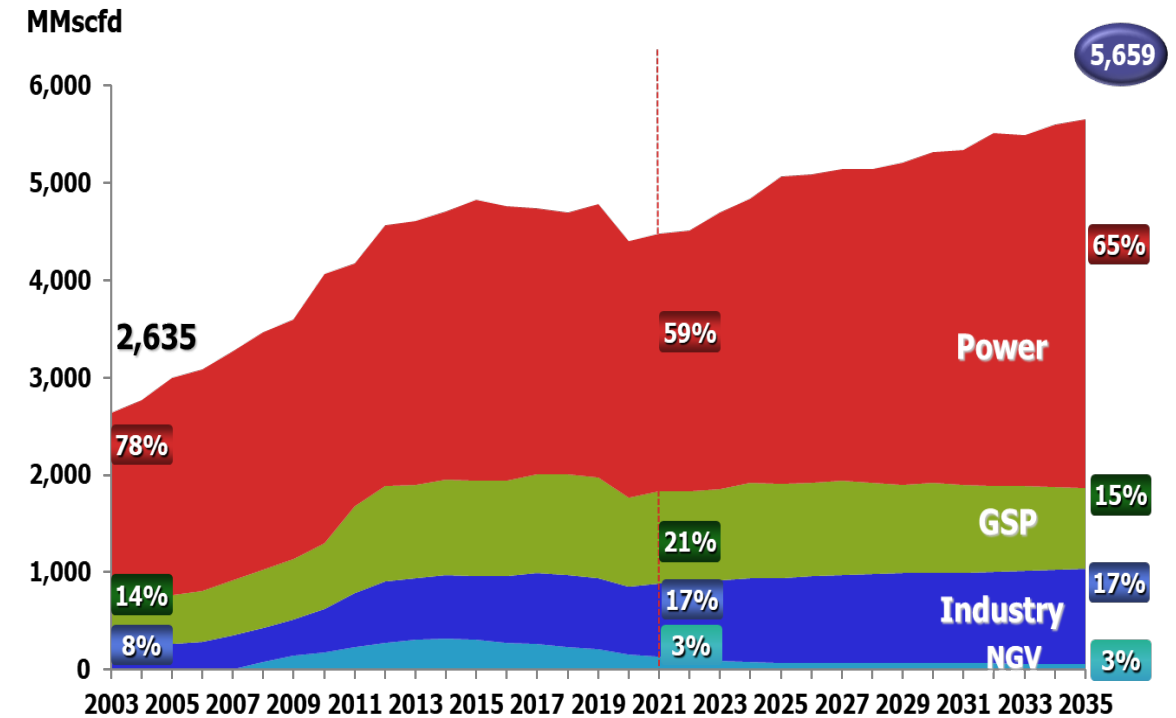
: Total	~	0.1%
: Power	~	2%
: GSP	~	-7%
: Industry	~	1%
: NGV	~	-6%



NEW**

Thailand Gas demand forecast (CAGR during 2021-2035)

: Total	~	2%
: Power	~	3%
: GSP	~	-1%
: Industry	~	2%
: NGV	~	-5%



*Source: Ministry of Energy

** Source : PTT Business plan 2021 approved by BOD on 17 Dec 2020

Natural Gas Price Structure : As of Sep 2021

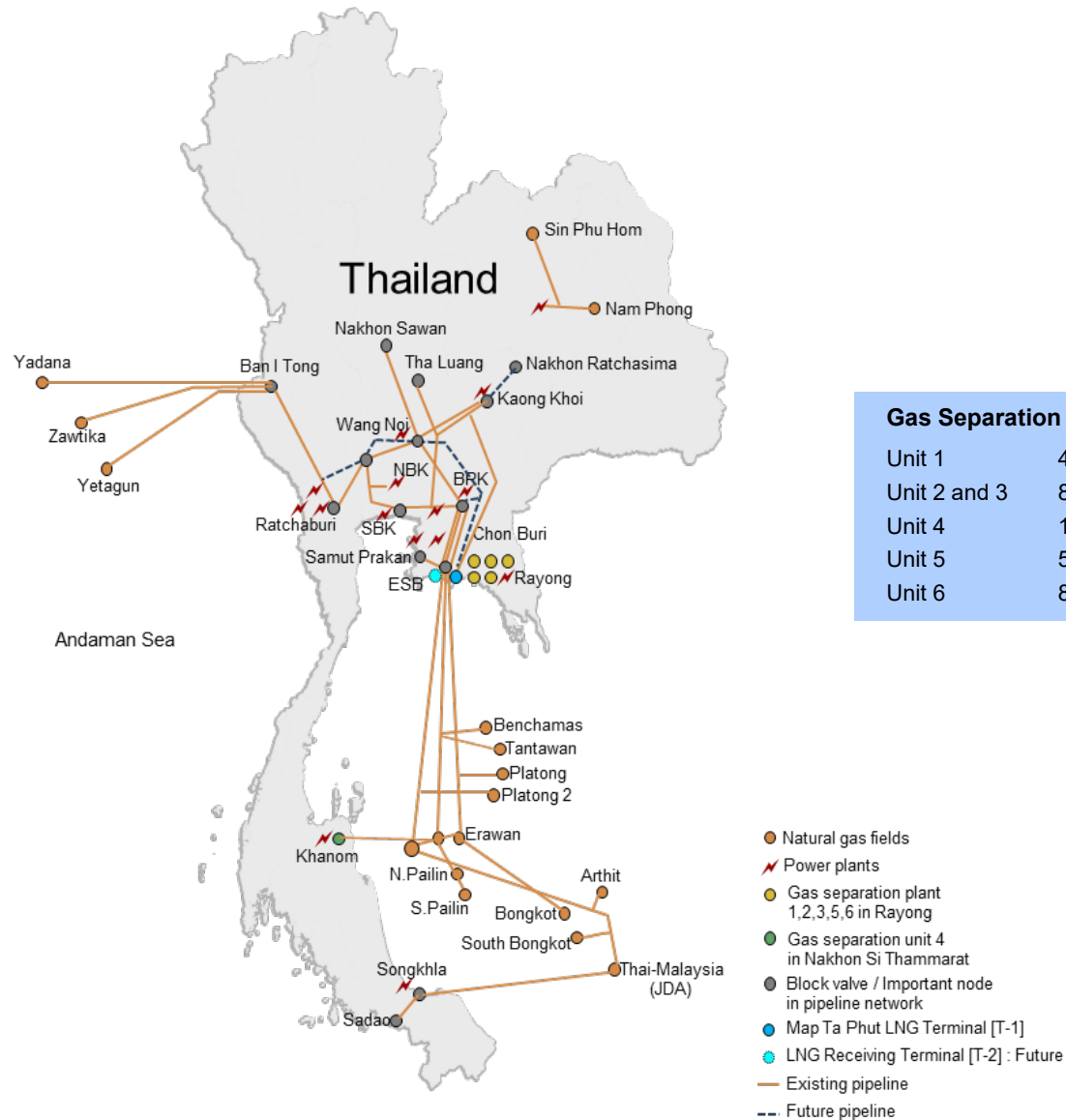
Gas prices are mostly agreed under long term contracts and volatility pass-through to ensure stable returns



Overview

- ✓ Sole owner and operator of entire gas transmission pipelines in Thailand (~ 4,000 km), a regulated business
 - IRROE ranges between 12.5% - 18% for transmission pipeline investment
- ✓ Supply & marketing of natural gas provides fixed margin with long-term contracts of 25-30 years
- ✓ 6 Gas Separation Plants; Total production 6.7 MTA; are on petrochemical market price-linked profit sharing basis

Gas transmission pipeline capacity



Gas Separation Plant Capacity	
Unit 1	420 MMcf/d
Unit 2 and 3	820 MMcf/d
Unit 4	170 MMcf/d
Unit 5	580 MMcf/d
Unit 6	880 MMcf/d