



**Analyst Meeting
3Q & 9M 2022
24 November 2022**



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Key Activities in 3Q2022



Divestment of coal business



PTTGL signed 20-year LNG contracts with Cheniere for 1 MTPA beginning in 2026



A cap of NGV price at 16.59 baht/kg for private and other vehicles from 16 Sep 2022 onwards and 13.62 baht/kg for taxi until 15 Dec 2022

Payment of Interim Dividend at the rate of Baht 1.30 per share

Core Businesses



Establishment of Innobio Nutrition to conduct Nutrition business



Establishment of Global Multimodal Logistics to operate a logistic business



Future Energy & Beyond



Investing 25% in Dusit Foods to strengthen OR's lifestyle business



Changing of Yadana operator in Myanmar to PTTEP. Effective on 20 Jul 2022 (~37% participating interest)

The Annexation of the Production Sharing Contract in MTJDA Project and 10-year production period extension with additional 30 MMSCFD of gas

Acquisition of 25% stakes in the Sharjah Onshore Area A Project in UAE



TOP raised Baht 10.4 billion in equity from new and existing shareholders



Awards and Recognition



- Sustainability Awards of Honor
- Best Innovative Company Awards
- Thailand Sustainability Investment (THSI)



- Master Entrepreneur Award
- Inspirational Brand Award
- Corporate Excellence Award

Awarded by Institutional Investor

- Best CEO
- Best CFO
- Most Honored Company
- Best IR & Best ESG

PTT Moving Forward to Carbon Neutrality by 2040 and Net Zero Emissions by 2050



3P

Decarbonization Pathways

Pursuit

of Lower Emissions



- GHG Reduction Project
- Carbon Offset, RECs

Portfolio

Transformation



Future Energy and Beyond Business

Partnership

with Nature and Society



- Reforestation by 2030
 - PTT: 1,000,000 Rai
 - PTT Group: 1,000,000 Rai

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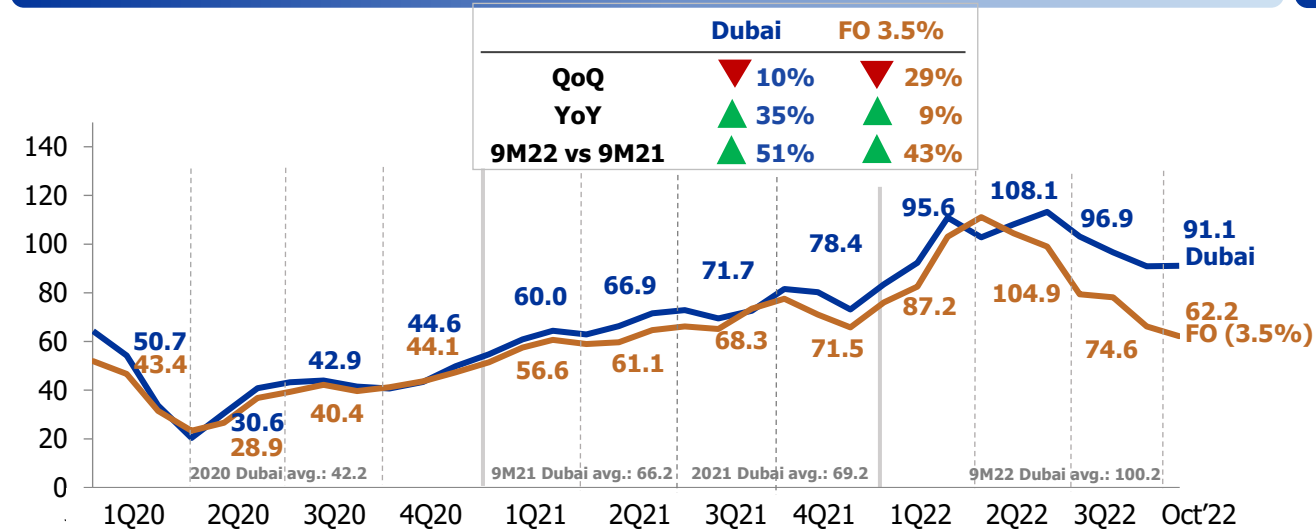
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Outlook/Guidance

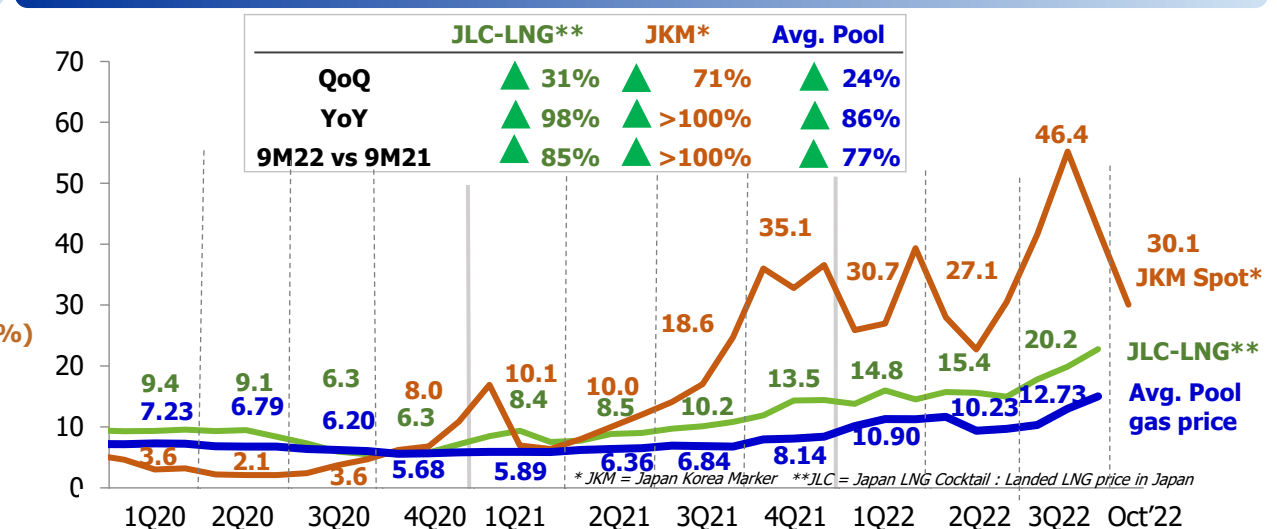
Key Business Drivers:

QoQ: Petroleum and petrochemical prices decreased amid concerns over economic recession, while Pool gas price increased from rising spot LNG
 9M22 VS 9M21: Most of petroleum and petrochemical prices increased from supply disruption due to Russia-Ukraine tension

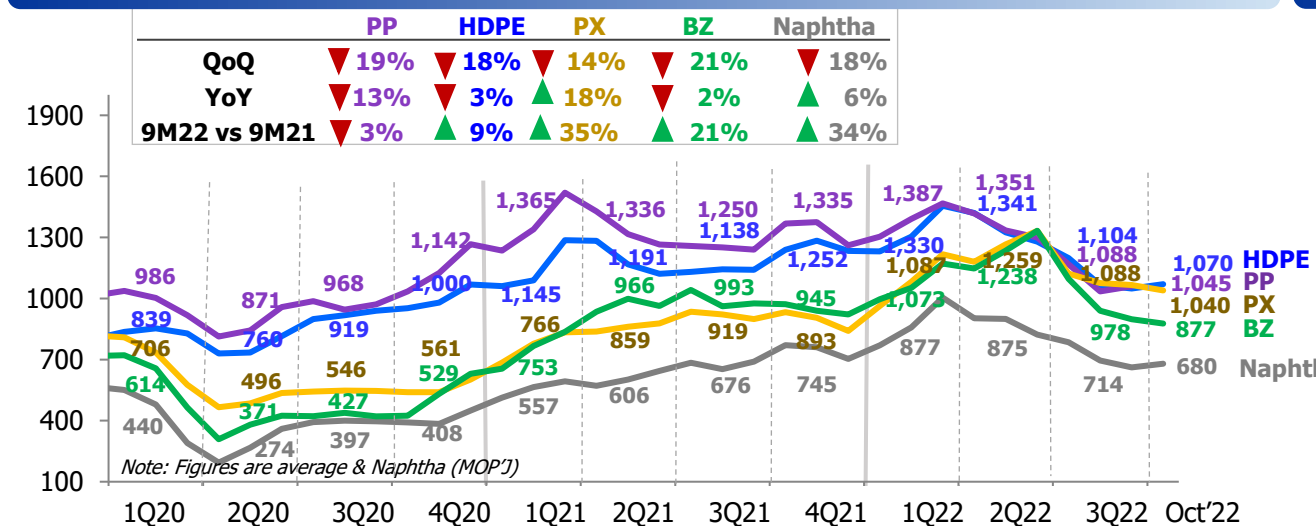
AVG. Petroleum Prices (\$/bbl)



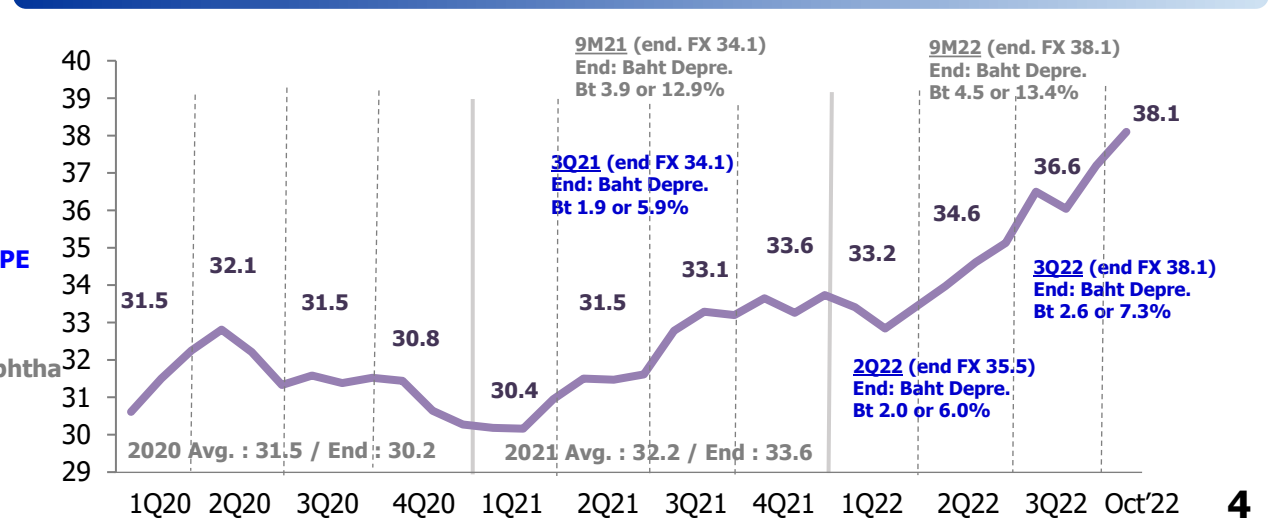
AVG. NG Prices (\$/MMBTU)



AVG. Petrochemical Prices (\$/ton)



AVG. FX (THB/USD)



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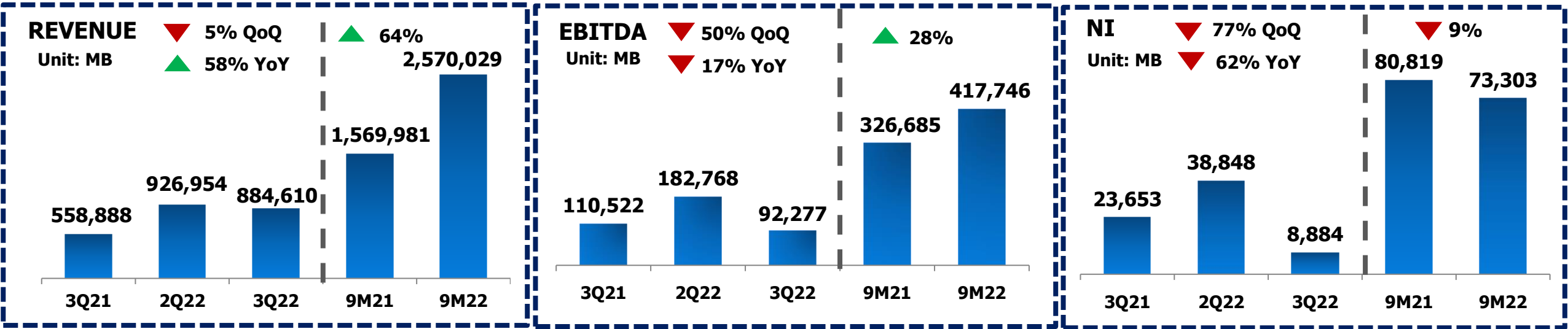
3Q & 9M2022 Performance

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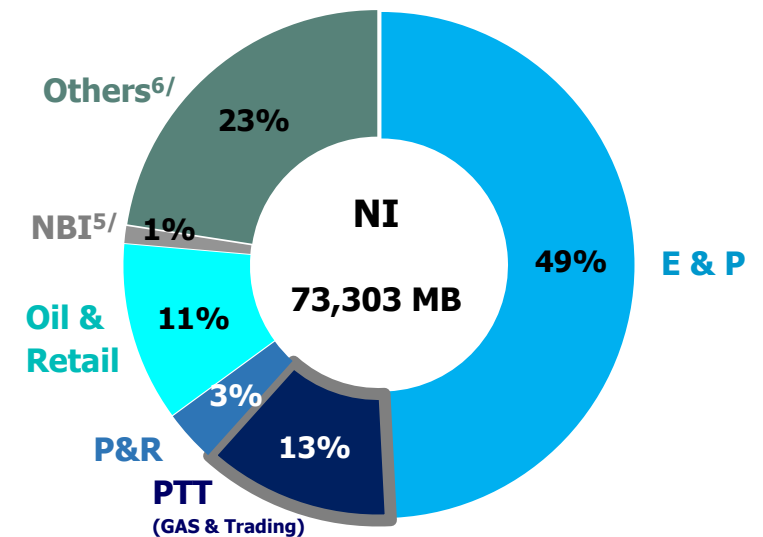
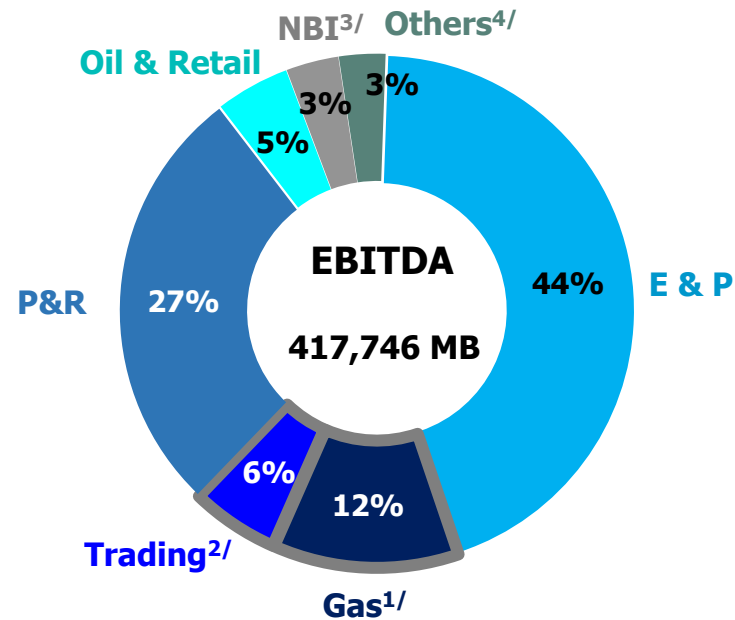
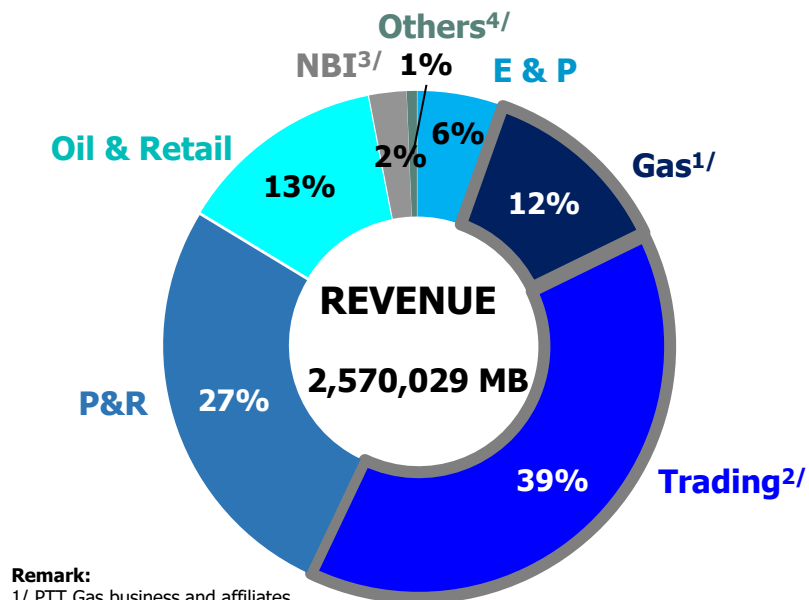
Outlook/Guidance

PTT Consolidated Performance: 3Q2022 & 9M2022

QoQ: NI dropped mainly from the decline of global petroleum & petrochemical spreads together with higher stock loss
 9M22 vs 9M21: Soften NI due to higher derivative & FX loss, despite improved operating performance



9M2022



Remark:

- 1/ PTT Gas business and affiliates
- 2/ PTT Trading business and affiliates
- 3/ New Business and Infrastructure mainly contributed from power business
- 4/ Others business mainly contributed from coal business

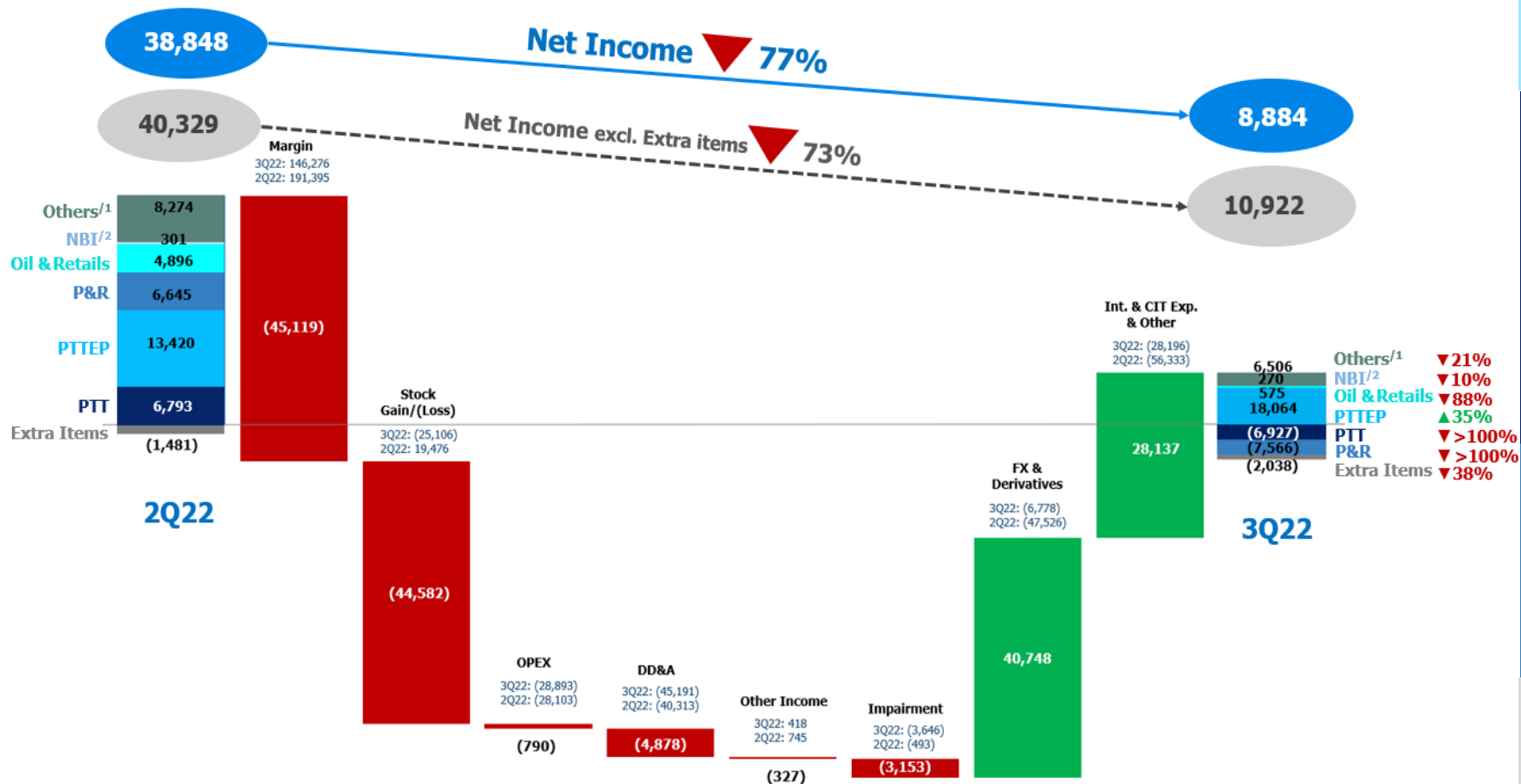
Remark:

- 5/ New Business and Infrastructure mainly contributed from power business
- 6/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.

3Q22 vs 2Q22 PTT Consolidated Performance (QoQ):

NI declined from lower margin and higher stock loss according to the decline of global petroleum & petrochemical prices despite gain on derivatives

MMTHB



Remark:

1/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.
2/ New Business and Infrastructure business mainly contributed from power business

Others

- Coal: Lower avg. selling prices & sales vol and higher cash cost
- + PTTT: Increased from gain on derivatives

NBI (mainly from power)

- Lower profit margin as natural gas and coal costs significantly increased

Oil & Retails

- Squeezed oil margin from higher cost as well as lower sales vol.
- Non-oil: lower sales revenue due to flood situation in many areas

PTTEP

- + Higher avg. sales vol. from MTJDA and G1/61 projects
- Lower avg. selling prices from liquid price decreased

PTT

- Higher FX loss despite lower derivative loss

Gas

- S&M: Higher pool gas cost and lower overall gas sales vol. due to lower gulf gas supply which leads to more LNG imported resulted in higher pool gas cost & power plants' fuel switching from gas to oil
- + GSP: Lower avg. selling prices and higher feed gas cost despite sales volume improved

Trading

- + Higher sales volume from refined products (out-out tradings) as well as LNG & LPG import
- Lower gross margin from higher condensate discount

Petrochemical & Refining

Refinery

- Decreased in Mkt. GRM from lower product spreads following global economic slowdown
- Higher stock loss and lower utilization rate

Petrochemical

- Olefins & Aromatics: Lower product spreads and sales vol. due to soften demand of downstream products

Extra Items*

(*PTT's portion net tax amount)

3Q22 : Net loss -2,038 MB PTTEP: impairment loss on assets held-for-sale ~-2,300 MB PTT: Donation to oil fund -1,000 MB and discounted benefit from gas production shortfall ~+900 MB

2Q22 : Net loss -1,481 MB TOP: Tax expense on sales of GPSC shares ~-2,100 MB PTTGM: Impairment loss of coal business ~-400 MB and PTT: Discounted benefit from gas production shortfall ~+1,000 MB

PTT EBITDA Breakdown by Business



Unit: MMTHB

	3Q21	2Q22	3Q22	QoQ	YoY	9M21	9M22	9M22 vs 9M21
GAS	23,388	22,892	6,926	▼ 70%	▼ 70%	67,297	49,338	▼ 27%
S&M	4,281	2,000	(4,307)	▼ >100%	▼ >100%	12,788	(1,584)	▼ >100%
TM	8,463	8,505	6,652	▼ 22%	▼ 21%	25,160	23,614	▼ 6%
GSP	8,198	11,558	7,341	▼ 36%	▼ 10%	21,802	29,242	▲ 34%
NGV	(465)	(2,433)	(4,201)	▼ 73%	▼ >100%	(1,111)	(8,937)	▼ >100%
Others	2,911	3,262	1,441	▼ 56%	▼ 50%	8,658	7,003	▼ 19%
Trading	1,942	3,785	4,097	▲ 8%	▲ >100%	3,987	9,101	▲ >100%
Total	25,330	26,677	11,023	▼ 59%	▼ 56%	71,284	58,439	▼ 18%

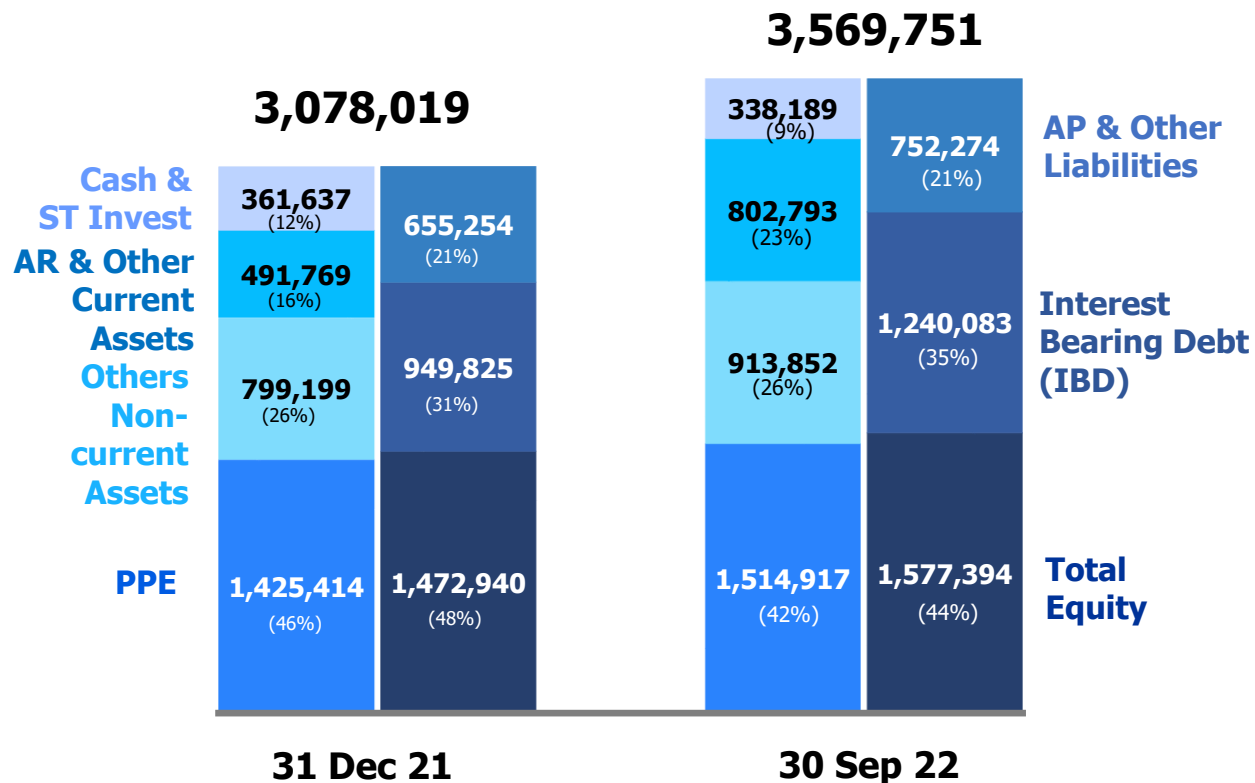
Financial Position

Strong Balance Sheets maintained credit ratings

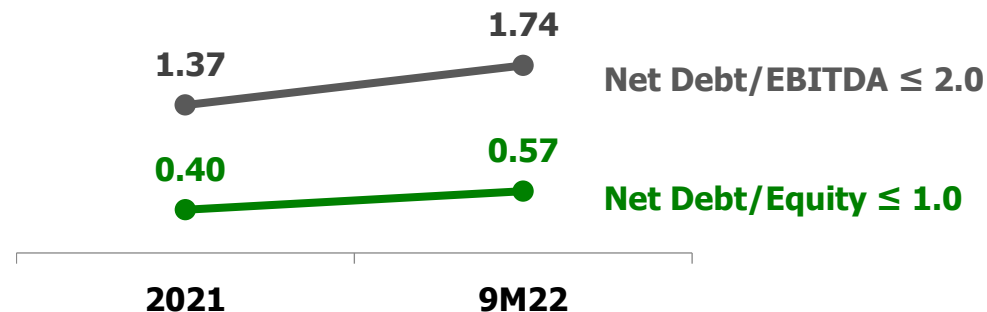
Consolidated Balance Sheets

Unit:MMTHB

▲ 16%



Key Financial Ratios



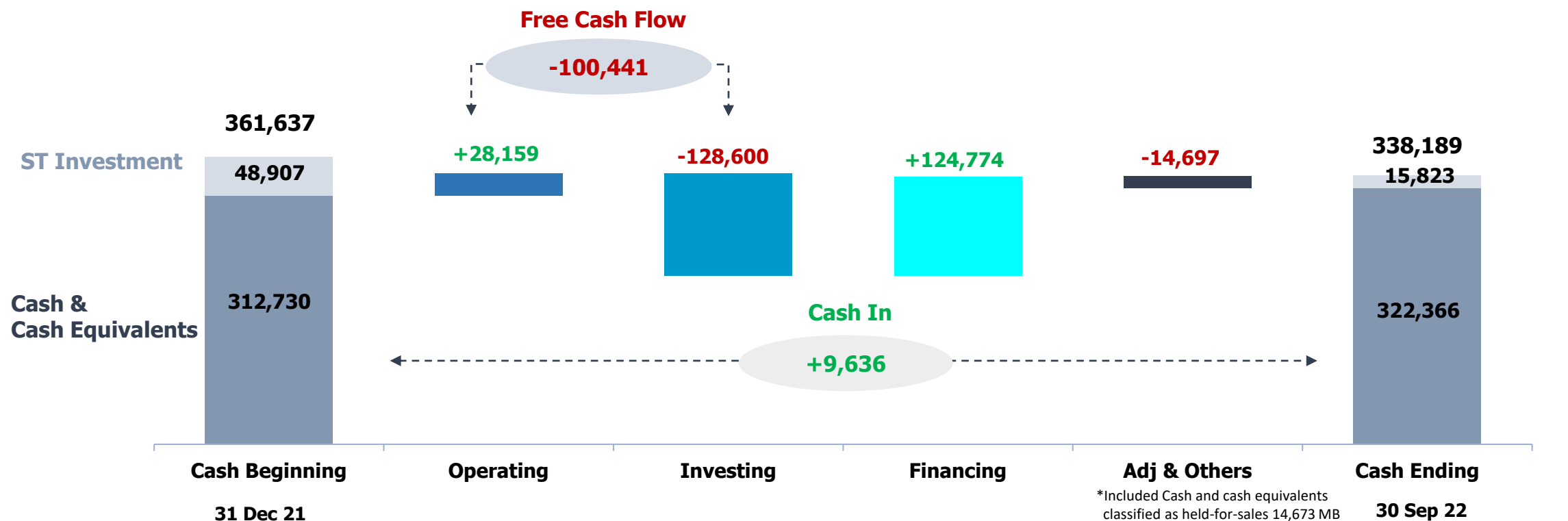
PTT Ratings at Sovereign Level

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

- + Increase in Inventories and accounts receivable from higher product prices and inventory volume
- + Increase in Others Non-current Assets from PTTEP's right-of-use assets as well as goodwill and intangible assets of PTTGM
- + PPE increased mainly from PTTEP's exploration and evaluation assets and Clean Fuel Project (CFP) of TOP
- + Increase in IBD from long-term loans and bonds issuances as well as short-term loans mainly from GC, PTT, and TOP
- + Increase in Equity due to PTT group's net profit net off with dividend payment

PTT Consolidated Cash Flows 9M22

Unit : MMTHB



Operating	28,159
Non-Cash Adjustment	297,425
Net Income	73,303
Changes in assets & liabilities	(268,970)
Income Tax	(73,599)

Investing	(128,600)
CAPEX (PPE, Intangible asset)	(119,729)
Investment (Sub. & Affiliates)	(51,219)
Current investment	34,185
Dividend/Interest Received	8,090
Others	73

Financing	124,774
Received from loans/Bonds	194,043
Received from share issue	8,071
Dividend paid	(45,459)
Finance cost paid	(25,203)
Repayment Subordinated Bond	(4,928)
Others	(1,750)

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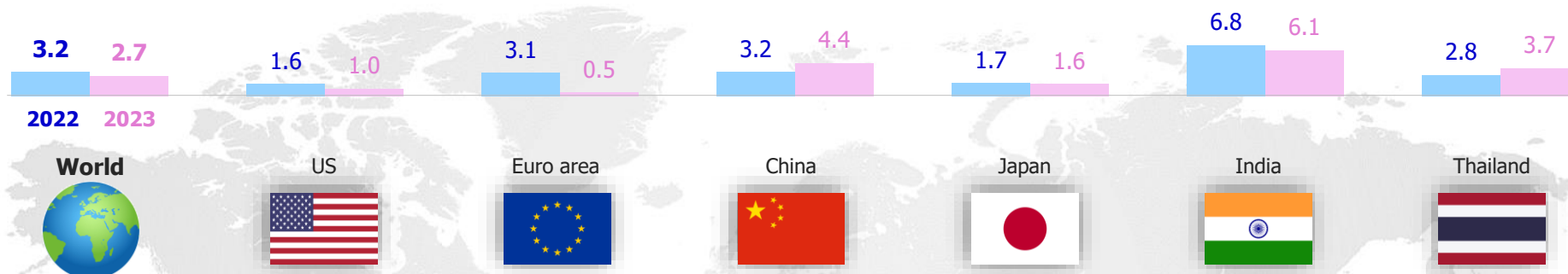
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Outlook/Guidance

Global Economic Outlook:

Broad Slowdown amid Cost-of-Living Crisis

IMF Forecast – GDP Growth (%)



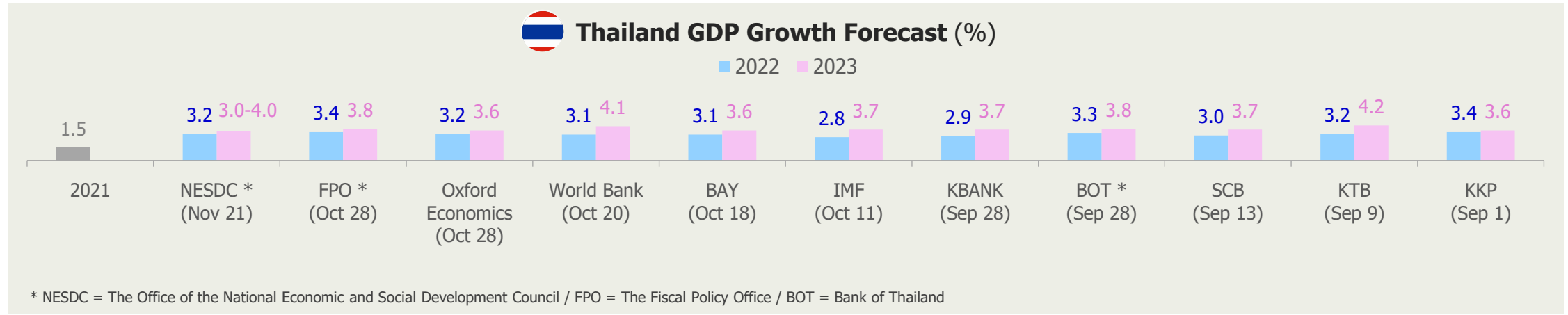
- + Continued rebalancing of demand toward services such as travel, amid many countries easing COVID-19 restrictions
- + Historically tight labor markets and still contained wage-price spiral risks, especially in several advanced economies
- + Black Sea grain deal giving hope of increasing supply of commodities, helping to moderate inflation (recently extended until Mar 19, 2023)



- Spillovers from China's slowdown, amid weakening property sector and intermittent lockdowns as part of zero-COVID strategy
- Russia's invasion of Ukraine pulling down Europe's economy, with higher energy prices and slower momentum in manufacturing
- Tightening of monetary and financial conditions amid persistent and broadening inflation pressures, and associated rise in borrowing costs, with many low-income countries in or close to debt distress
- Fragmentation in global cooperation disrupting trade, capital flows and climate change policy cooperation

Thailand Economic Outlook:

Overall Economic Activity Approaching Pre-COVID Level, But Uneven Recovery From Low Base



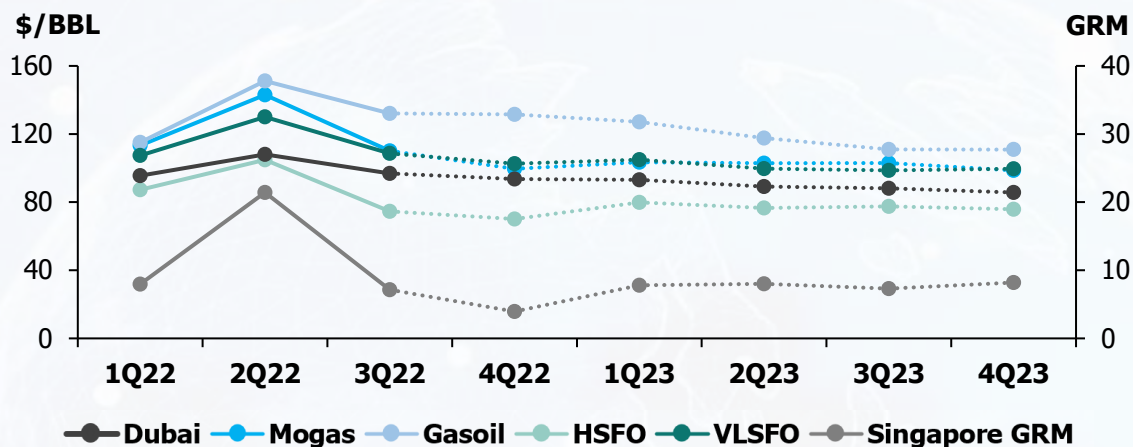
- + **Returning international arrivals remaining a bright spot**, following the removal of most COVID-19 restrictions worldwide, to drive growth and current account surplus, albeit tourism sector to return close to pre-COVID level in 2024 (number of foreign tourists expected at 16.5-28.3 mn in 2023, 8.1-10.4 mn in 2022 vs. 0.4 mn in 2021)
- + **Ongoing recovery in private consumption**, amid improving COVID-19 situation and stimulus measures (private consumption expected growth of 2.5-4% in 2023, 4.4-7.9% in 2022 vs. 0.3% in 2021)



- **Goods exports to lose momentum**, amid lower trading partners' growth and a shift in demand toward services (expected growth of 1.1-3.5% in 2023, 6.3-8.2% in 2022 vs. 19.2% in 2021)
- **Upward trend in interest rates, amid elevated inflation** triggered by volatile energy prices, with less buffer from fuel subsidies going forward, to squeeze real incomes and affect investment, particularly of low-income households and small businesses (inflation expected at 2-3.2% in 2023, 6-6.3% in 2022 vs. 1.2% in 2021)
- **Intensifying competition to attract foreign tourists**, especially within Asia, and lower tourism spending per trip

2023 Petroleum and Gas Outlook

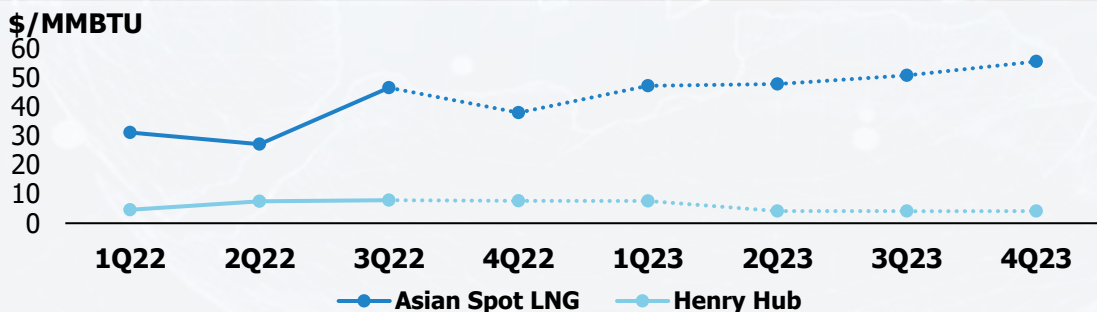
Petroleum



Price	2Q22	3Q22	9M21	9M22	2022(E)	2023(E)
Dubai	108.1	96.9	66.2	100.2	96-101	85-95
Mogas	143.0	110.1	75.8	122.2	114-119	99-104
Gasoil	151.2	132.1	71.3	132.8	130-135	114-119
HSFO (3.5%S)	104.9	74.6	62.0	88.9	82-87	75-80
VLSFO (0.5%S)	130.0	108.6	72.1	115.3	110-115	98-103
Singapore GRM	21.4	7.1	2.5	12.2	9.6-10.6	7.3-8.3

Source: PTT, PRISM Petroleum Rolling as of 26 October 2022

Gas/LNG



Price	2Q22	3Q22	9M21	9M22	2022(E)	2023(E)
Asian Spot LNG	27.2	46.5	13.0	35.2	33-38	43-48
Henry Hub (HH)	7.5	7.9	3.4	6.7	6.4-7.4	4.5-5.5

Source: EA (Oct. '22) & Goldman Sachs (Oct. '22)

▼ Dubai

- Slower oil demand on fears of a recession and zero-COVID policy in China
- Gradually increase of U.S. production amid more rig counts
- + Tighter crude balances as the ban on Russian crude imports
- + Expectations of gas-to-oil switching during winter amid high natural gas prices
- + OPEC+ to cut output by 2 MBD, but an actual drop of 0.5 - 1 MBD expected as some members are already producing below their targets

▼ Mogas

- Higher exports from China amid new Chinese export quota and zero-COVID policy
- Weaken demand due to concern on economic recession
- + Low US gasoline inventories resulted in higher arbitrage from Asia to the U.S.

▼ Gas oil

- Higher exports from China amid new products export quota and zero-COVID policy
- Weaken demand due to concern on economic recession
- + Demand from gas to oil switching amid high natural gas prices
- + Middle distillate stocks remain well below 5-years average

▼ Fuel oil

- HSFO: - Sustained Russian flows to Asia. More Russian HSFO barrels are expected to be diverted from Europe to Asia ahead of the EU sanctions deadlines
- + Increased gas-to-oil switching amid high natural gas prices
- VLSFO: - Potentially higher exports from China amid new Chinese export quota
- Planned startup of the CDU of Kuwait's Al-Zour refinery in 2023
- + Seasonal uptick in shipping activities and power generation in NEA

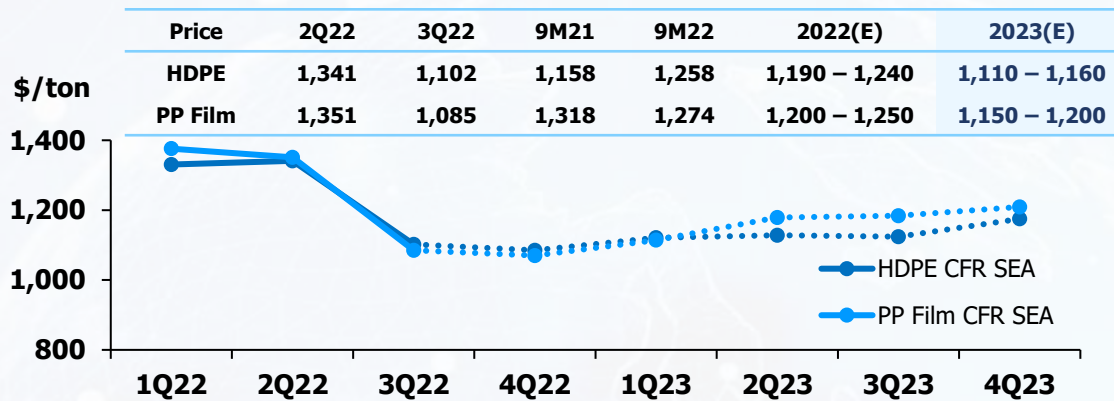
▼ Singapore GRM

- Soften following the gasoline and middle distillate crack spreads due to lower demand

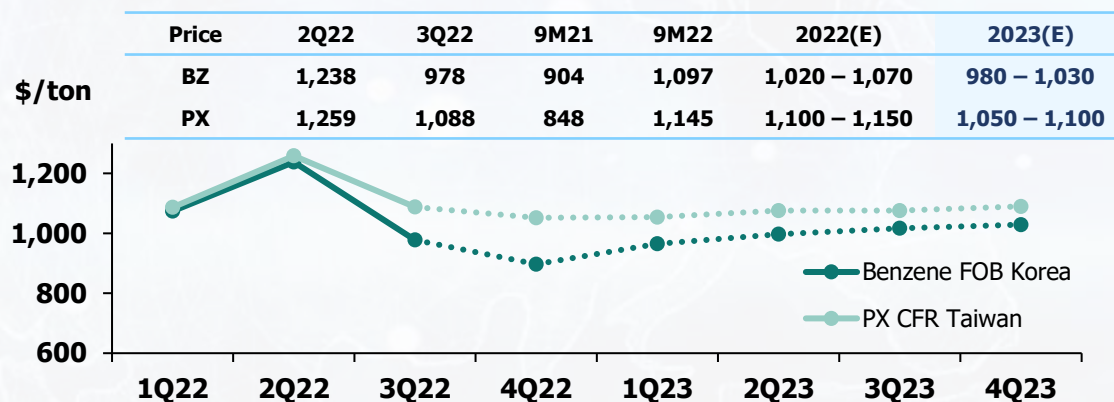
Gas/LNG

- ▲ Asian Spot LNG: + Higher European LNG demand in 2023 to replace Russian piped gas
- + Globally late winter until the beginning of 2023
- High gas inventories in Europe and North Asia, but the countries are expected to struggle to refill post-winter
- Zero-COVID policy in China until at least 1Q23
- ▼ Henry Hub: - Increasing U.S. supply amidst reducing demand, leading to more exports

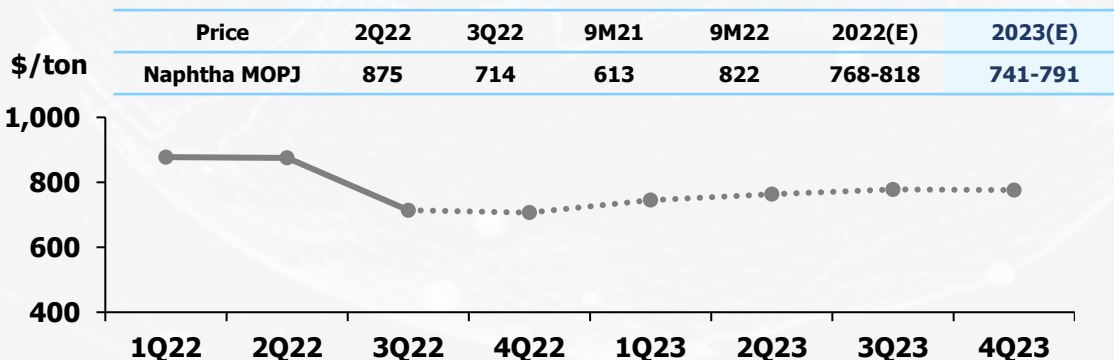
Olefins



Aromatics



Naphtha



Olefins

- **Competitively-priced cargoes elsewhere** to dampen SEA sentiment in 4Q22
- **Persistent weak consumer's buying power** following economic slowdowns, rising interest rates, weaker regional currency against USD and Chinese lockdown
- **Oversupplied markets with additional regional supply** pressuring on global operating rate to bottom-out at around 80% in 2023
- + **High feedstock costs to persist as a cost-push pressure** due to ongoing geopolitical tension between Russia-Ukraine
- + **Potential downstream demand recovery** if China's zero-COVID policy lifts in 2Q23 onwards

Aromatics

- **Uneconomical PTA & SM downstream margins** resulting in production cuts to limit PX and BZ consumptions in 4Q22
- **Persistent weak consumer's buying power** following economic slowdowns, rising interest rates, weaker regional currency against USD and Chinese lockdown
- **Balanced-to-long markets with rising new Chinese supply** pressuring on global operating rate to bottom-out at 70% in 2023
- + **High feedstock costs to persist as a cost-push pressure**
- + **Lower supply** from PX production cuts on squeezed margins over MX in 4Q22
- + **Potential PTA & SM downstream demand recovery** if China's zero-COVID policy lifts in 2Q23 onwards

Naphtha

- **Slow China's downstream demand recovery** due to China's zero-COVID policy and recession fears
- **Increased interest in LPG substitution** among flexible-feed crackers amid low LPG price
- **Higher supply** as refinery raised refinery runs
- + **Seasonal Petrochemical demand** before New Year holidays

PTT Group 2023 Guidance

Business outlook 2023

Upstream



E&P:

- + Vol. increase
- Softer Gas selling price from new PSC

GAS:

- + NG Demand increase
- + Improve domestic gas production
- + GSP's U-Rate increase in 2023
- Pressure on gas cost from higher Spot LNG price

Downstream



Oil: Increasing demand in line with the GDP



P&R:

Refinery:

- Pressure from softer Singapore GRM
- + Higher PTT Group Refinery U-Rate

Petchem:

- Pressure from tighten petrochemical spreads
- Lower demand following weak-purchasing power
- More capacities addition

Power:



- + Recovering domestic electricity consumption
- High energy price pressure on feed cost

Future Energy & Beyond



Future Energy:

+ Expansion of EV chargers

- Target EV chargers within 2023
- Arun plus 3,850 units
- OR 850 stations



Beyond:



Lotus: starting to recognize NI contribution since 2Q22

Upcoming projects

Core Biz



LNG Terminal#2

Full phase : 7.5 MTA
COD: End of 2022



5th Pipeline

Phase I On Schedule
Phase II & III Postpone COD: 1H2023



Ole 2 Modification Plant Project

Feed flexibility (propane)
COD: 1Q2023



Kuraray GC Advanced Materials

PA9T: 13 KTA & HSBC: 16 KTA
COD: 1Q2023

New Biz



Non-Woven Fabric products:

~ 5.6 KTA COD in 4Q2022



Plant-based manufacturing Plant

3 KTA COD: 2Q2023



Avaada Solar Power Platform in India:

4,634 MW

GPSC hold 42.9% (3,681 MW in operating / 953 MW in progress)
COD: 4Q2021-2023

Maintenance schedule in 2023

Gas Separation Plants

2023: GSP#2 & GSP#3 Major TA : 15-20 days
ESP TD 50% : 60 days

Petrochemical & Refinery Plants



2023: Ole 1/2 & Ole 2/2 Major TA : ~1-2 months
ARO II TA : 37 days
Oleflex TA : 65 days

Thank you



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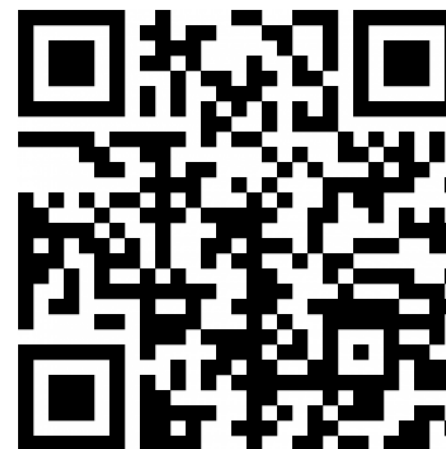


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Website: <http://www.pttplc.com>

Questionnaire



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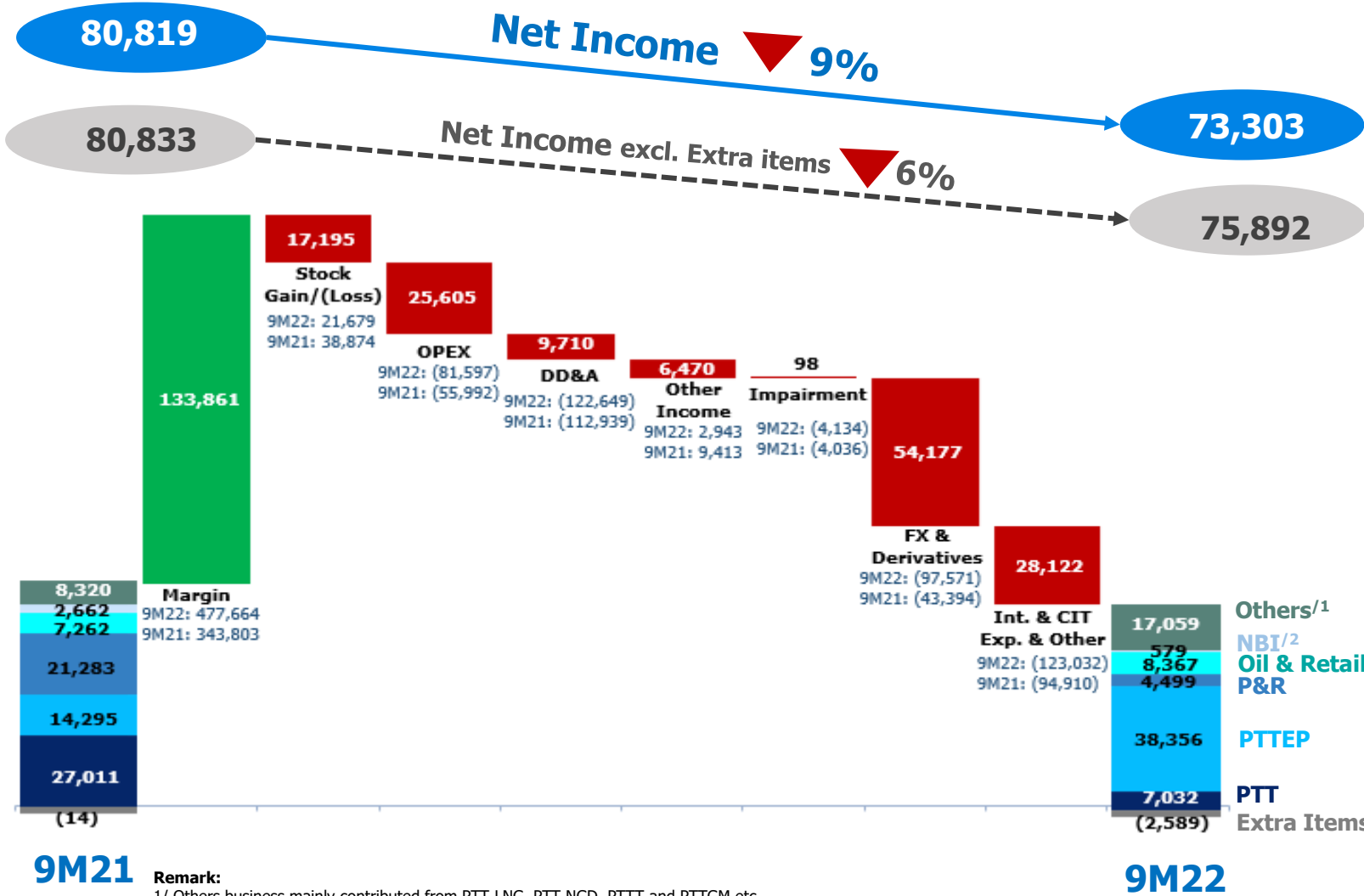
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9M22 vs 9M21 PTT Consolidated Performance (YTD):

Decreased NI from higher loss on derivatives despite better margin

MMTHB



Remark:
1/ Others business mainly contributed from PTT LNG, PTT NGD, PTTT and PTTGM etc.
2/ New Business and Infrastructure mainly contributed from power business

Others

- + Coal: Higher avg. selling prices and sales vol.
- + PTTT: Higher margin and sales vol.

NBI (mainly from power)

- Lower profit margin as natural gas and coal costs significantly increased

Oil & Retails

- + Higher oil sales vol. from easing of lockdown measures
- + Non-oil: higher sales vol. due to the recovery of economic activities and stores expansion

Petrochemical & Refining

- Higher loss on derivatives and loss on exchange rates

Refinery

- + Higher Mkt. GRM from higher product spreads despite lower stock gain
- + Improved U-Rate

Petrochemical

- Olefins & Aromatics: Lower product spreads and sales vol.

PTTEP

- + Higher avg. selling prices following global market prices from liquid & gas price increased
- + Higher avg. sales vol. from Oman Block 61 acquisition and G1/61 production projects

PTT

- Higher loss on derivatives

Gas

- S&M: Higher pool gas cost and lower overall gas sales vol. due to lower gas supply
- + GSP: Higher selling prices despite lower sales volume due to lower gas supply and higher feed gas cost

Trading

- + Increased margin from higher spread of products
- + Higher sales volume from LNG and LPG import as well as increasing in trading activities

Extra Items* (*PTT's portion net tax amount)

9M22 : Net loss -2,589 MB PTTEP: impairment loss on assets held-for-sale ~-2,300 MB PTTGM: impairment loss of coal business ~-400 MB PTT: Donation to oil fund -1,000 MB and discounted benefit from gas production shortfall ~+2,500 MB GPSC: gain on sale Ichinoseki ~+350 MB

9M21 : Net loss -14 MB PTTEP: Gain on bargain purchase of Oman Block 61 ~+7,000 MB, offset write-off assets in Brazil ~-2,900 MB GC: Emery Oleochemicals impairment of ~-1,500 MB & tax from selling stakes in GPSC ~-2,100 MB PTT: write-off on obsolete materials and supplies ~-800 MB

Others/1 ▲ >100%

NBI/2 ▼ 78%

Oil & Retails ▲ 15%

P&R ▼ 79%

PTTEP ▲ >100%

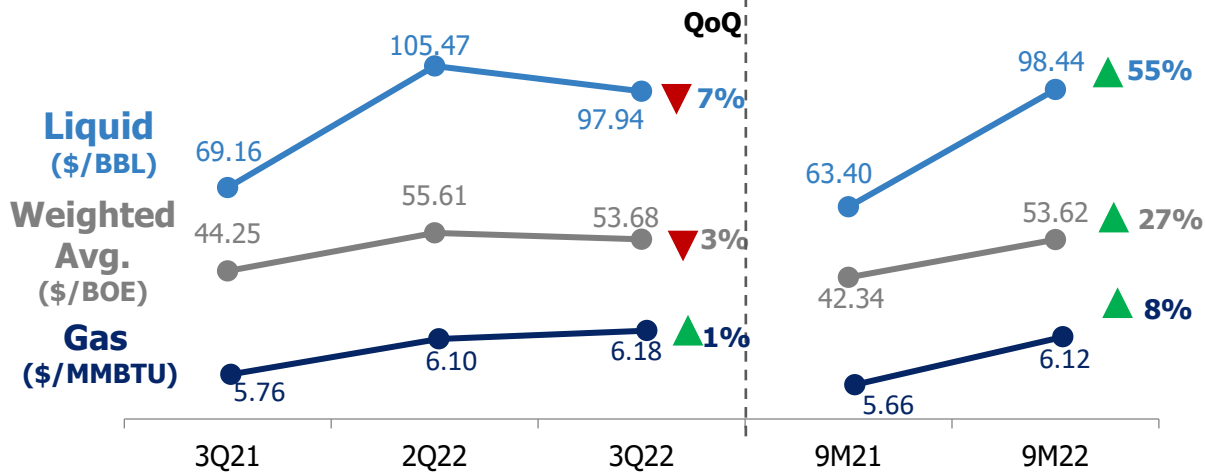
PTT ▼ 74%

Extra Items ▼ >100%

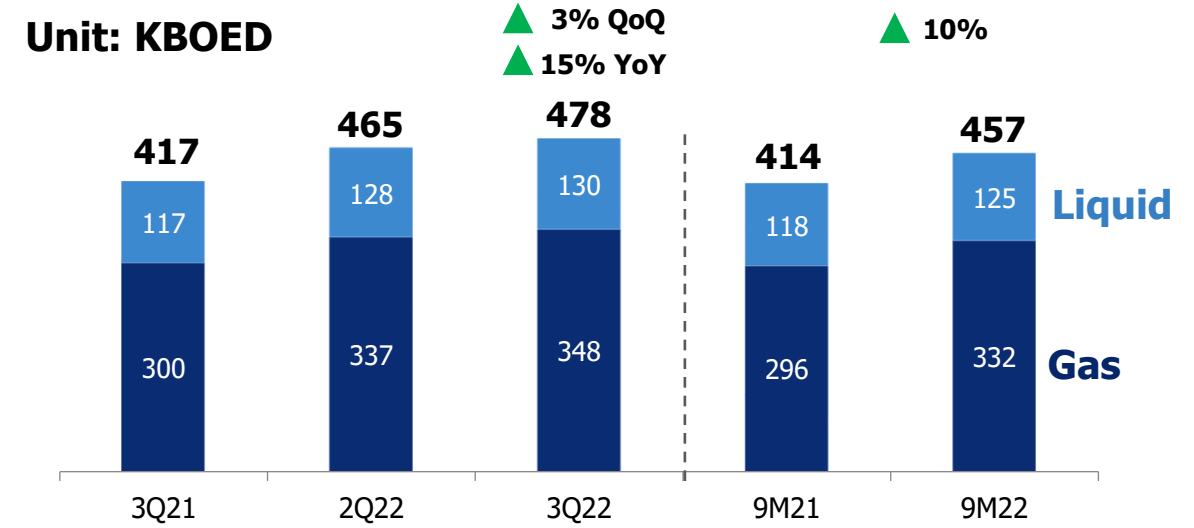
E&P Performance

QoQ: Strengthen performance from higher sales vol. together with lower income taxes and gain from oil price hedging
9M22 VS 9M21: NI improved due to higher selling prices & sales volume as well as lower loss on oil price hedging

Product Prices

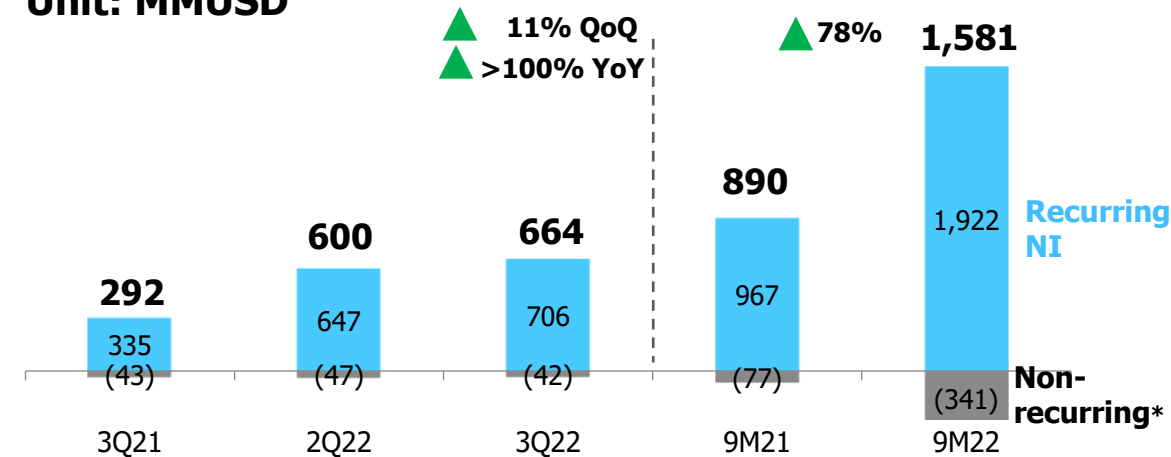


Sales Volume



Net Income (100%)

Unit: MMUSD



QoQ ▲

- + Normal operation: increased due to higher gross profit following increasing sales volume despite decreasing selling prices. while income taxes decreased
- + Non-operating items: primarily from gain from oil price hedging

9M22 VS 9M21 ▲

- + Normal operation: significantly enhanced from higher selling prices & sales volume
- Non-operating items: mainly from impairment loss on assets in Brazil. While in 9M21, there was recognition of gain on a bargain purchase of Oman Block 61 despite lower loss on oil price hedging in 9M22

* 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.

Gas Business

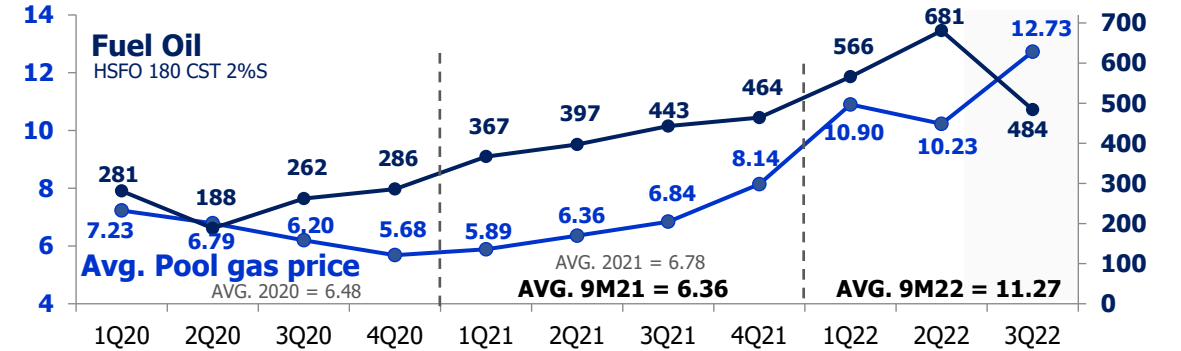
QoQ : Gas pool price surged from LNG import and NG sales vol. decreased

9M22 vs 9M21 : Surging pool gas cost and lower NG sales vol. from lower gulf gas supply

NG Price VS FO & Customer Breakdown

NG Price

\$/MMBTU



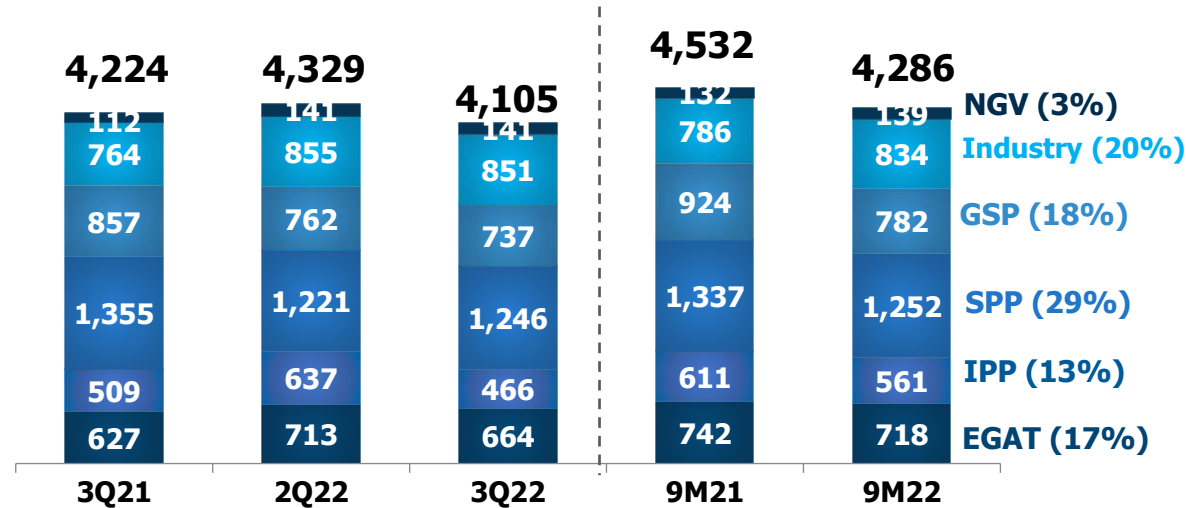
*Energy pool price effective from May 2022, Avg price in 2Q22 = 380.95 THB/MMBTU, 3Q22 = 550.52 THB/MMBTU

NG Vol.

Unit: MMSCFD

▼ 5% QoQ
▼ 3% YoY

▼ 5%

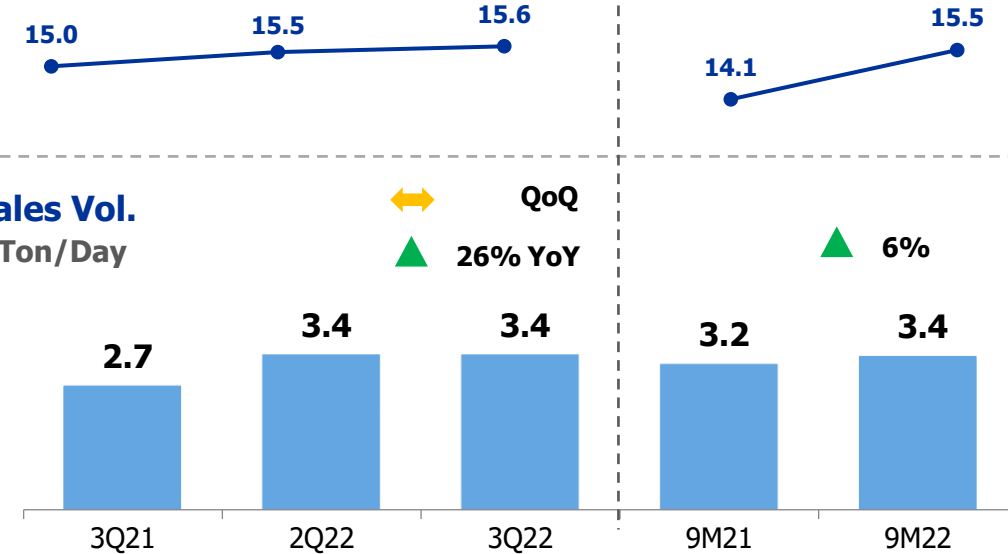


NGV Price & Sales Volume

NGV Avg. price

Unit: THB/KG

▲ 1% QoQ
▲ 4% YoY

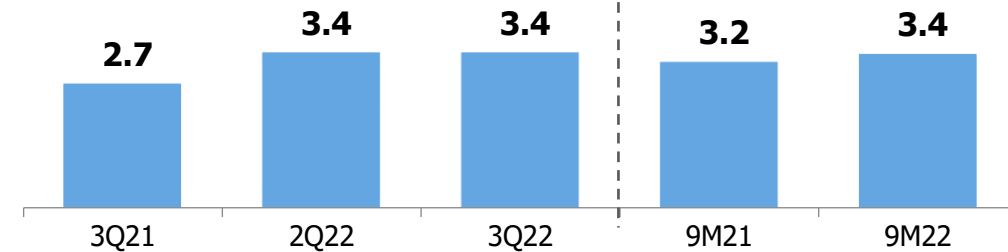


NGV Sales Vol.

Unit: K.Ton/Day

↔ QoQ
▲ 26% YoY

▲ 6%



Key Highlights

QoQ ▼

- Avg. pooled gas price surged from higher vol. of imported LNG during rising price and increased Myanmar and gulf gas costs following higher referenced price
- Decreased overall NG sales vol. mainly from switching of fuels to use hydro, diesel and fuel oil instead for power generation during high gas cost situation

9M22 vs 9M21 ▼

- Avg. pool gas price significantly increased from LNG import due to lower supply of gulf gas
- NG sales vol. dropped due to lower gas supply from the gulf gas field during G1/61's transition period and the switching of fuels for power generation
- Higher NGV's loss as the selling price is capped while the gas cost continues increasing

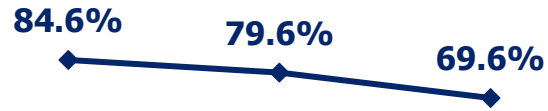
Gas Business : Gas Separation Plant (GSP)

QoQ : GSP performance decreased due to lower average selling prices and higher feed cost

9M22 vs 9M21 : Improved GSP performance from higher selling prices despite lower sales volume

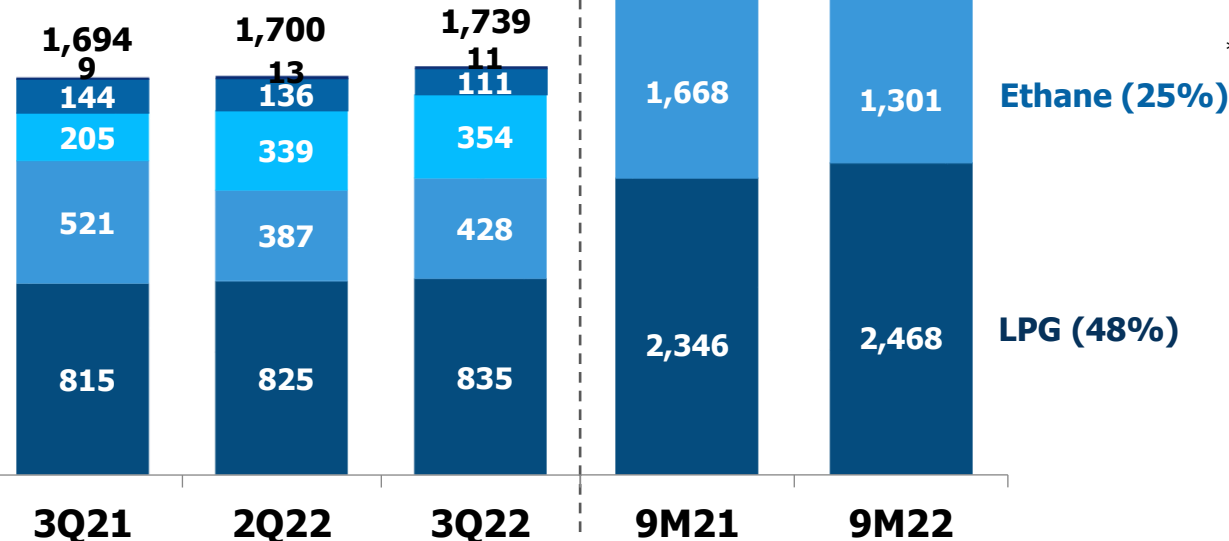
GSP Sales Vol. & U-Rate

U-Rate



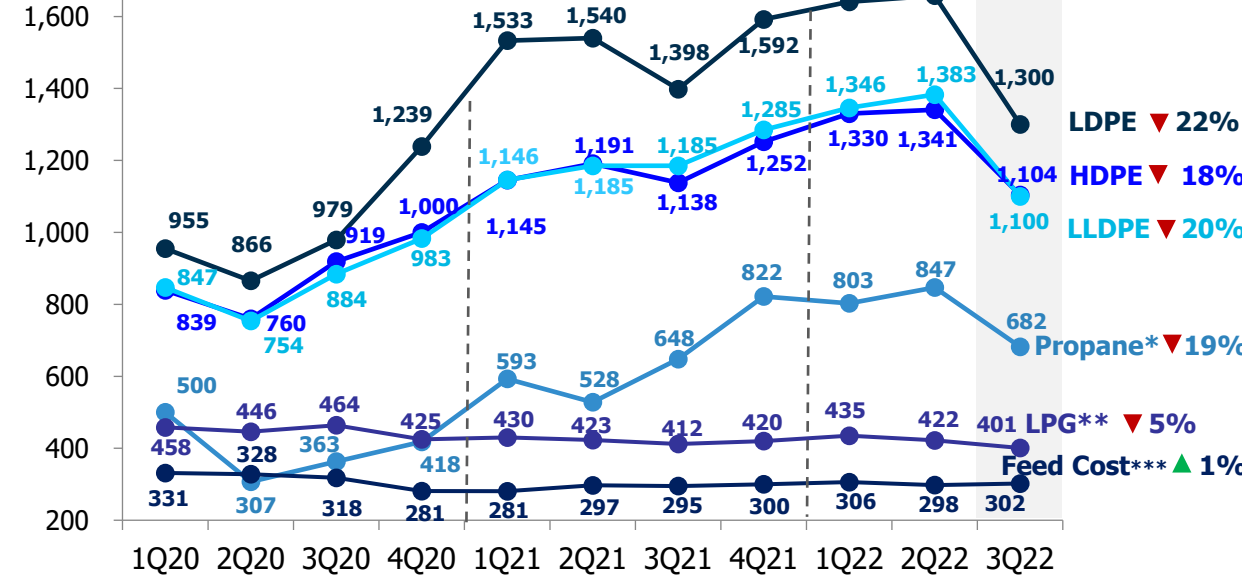
Unit : kTon

▲ 2%QoQ
▲ 3% YoY



GSP Feed Cost vs Petchem. Prices

Unit: \$/Ton



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

Key Highlights

QoQ ▼

- Decreased average GSP's selling prices following referenced global petrochemical prices
- Higher feed gas cost
- + Sales volume increased while U-Rate decreased due to higher shutdown for maintenance in gulf gas field

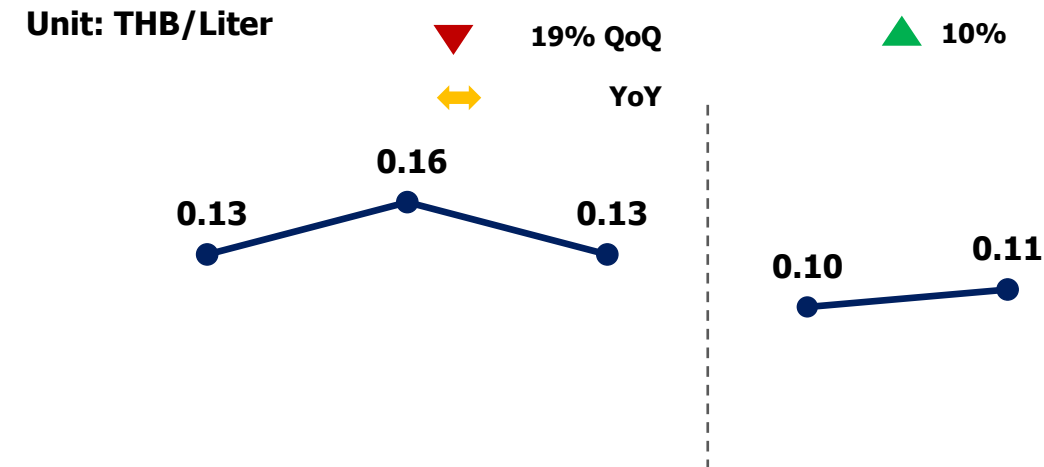
9M22 vs 9M21 ▲

- + Increased GSP's selling prices following global petrochemical prices
- Decreased sales volume due to lower gulf gas supply
- Feed gas cost increased

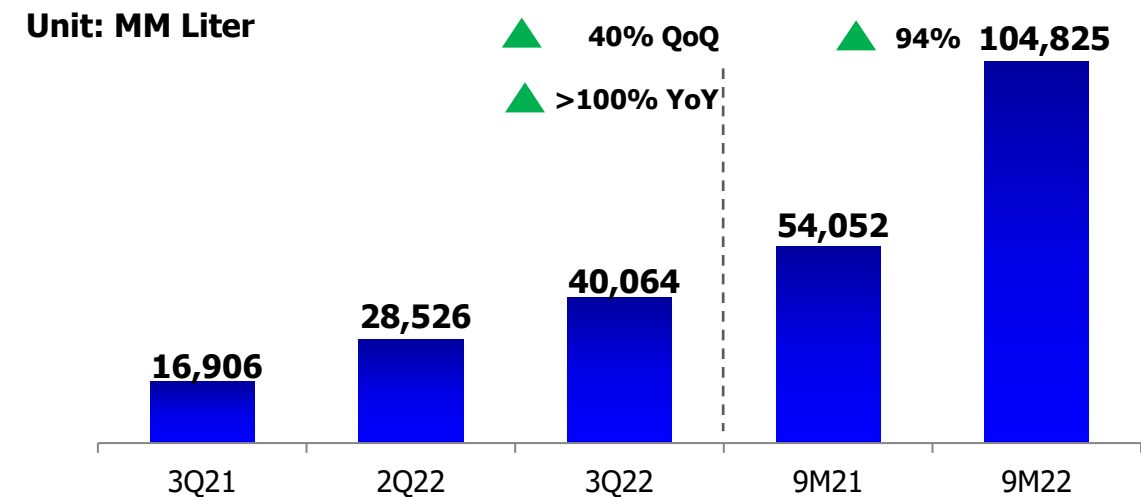
Trading Business:

QoQ: Improved EBITDA due to higher sales volume despite decreased gross margin
 9M22 vs 9M21: Enhanced EBITDA owing to improved gross margin and sales volume

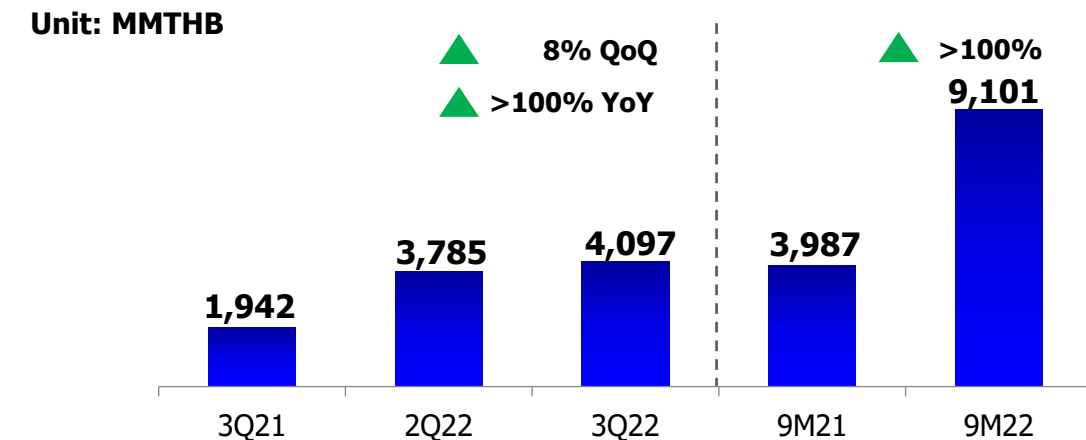
Gross Margin¹



Sales Volume²



Trading – EBITDA³



Key Highlights

QoQ ▲

- Margin decreased due to higher condensate discount
- + Increased sales vol. from higher refined product Out-Out as well as LNG & LPG import
- + EBITDA improved from higher sales volume

9M22 vs 9M21 ▲

- + Higher gross margin mainly from higher spread of crude oil, LPG, gasoline, and LNG
- + Volume increased due to higher imported LNG as a result of lower domestic gas supply and LPG import and crude import following recovered demand
- + EBITDA improved from higher gross margin and sales volume

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

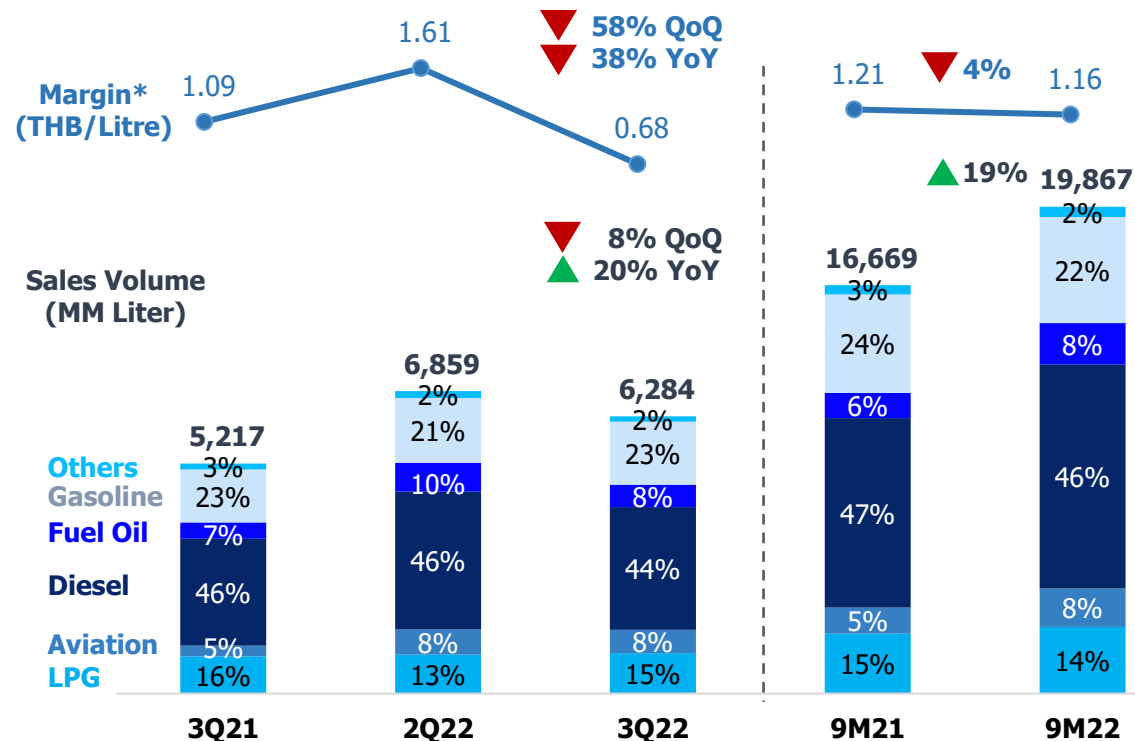
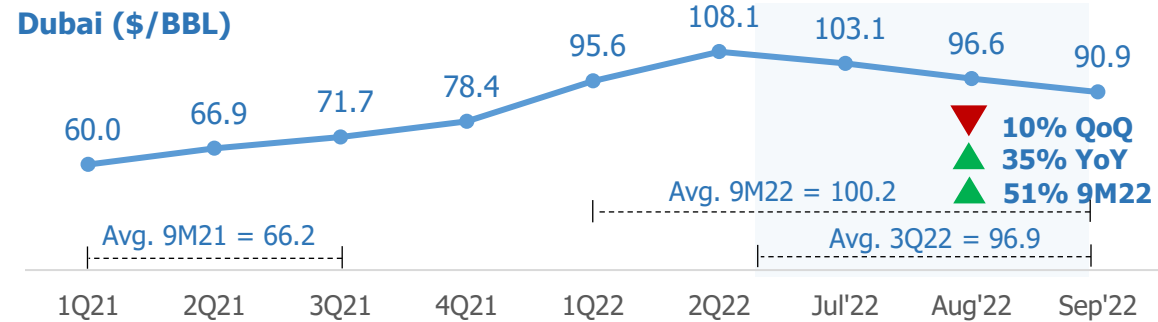
² PTT Trading BU + trading subsidiaries + JTA

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

Oil Business : OR Group

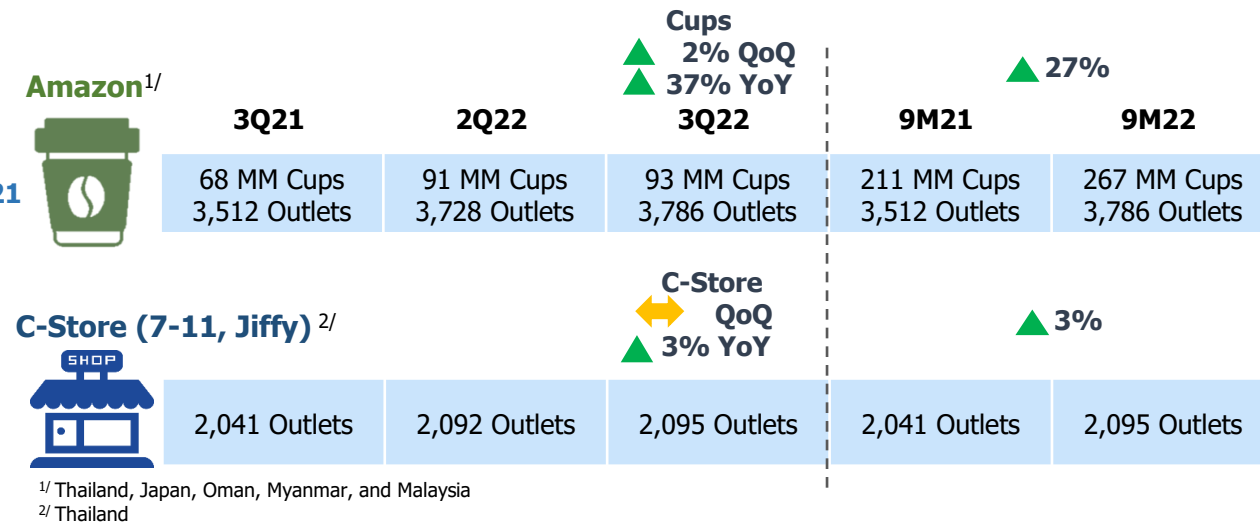
QoQ : Declined performance from Oil's squeezed margin together with decreased Oil and Non-oil domestic demand during rainy season
9M22 vs 9M21 : Increased performance from higher demand of Oil and Non-oil as economic recovery and easing of lockdown measures

Oil Business

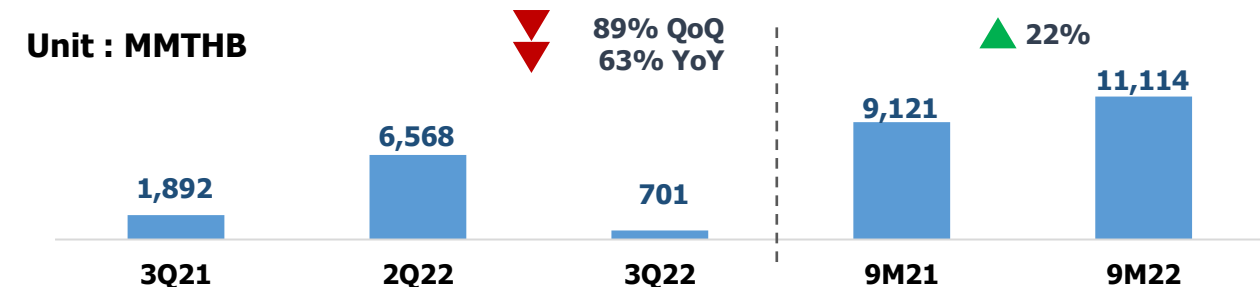


*Gross margin included stock gain/(loss)

Non-oil Business



Net Income



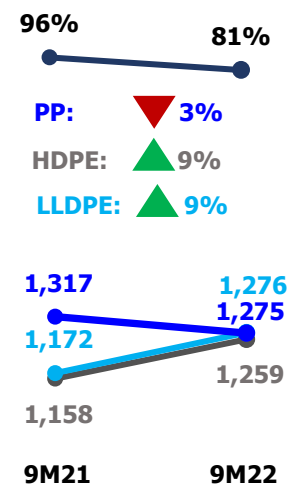
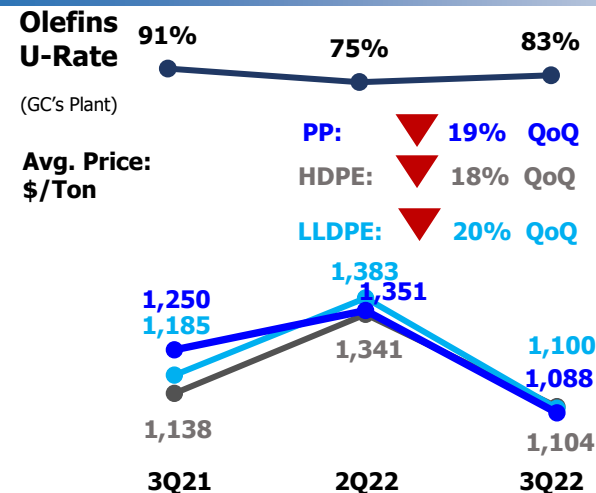
- QoQ** (down)
- Oil – Squeezed oil margin due to higher cost as well as decreased sales volume
 - Non-Oil – Decreased revenue in retail business due to flood situation in many areas
- 9M22 vs 9M21** (up)
- + Oil - Better sales volume especially diesel and FO as the alternative fuels in the situation of rising gas price
 - + Non-Oil - Improved performance due to increased sales volume from outlet expansion

P&R Businesses

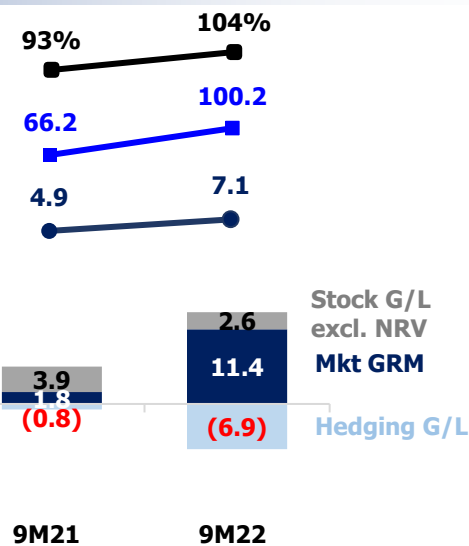
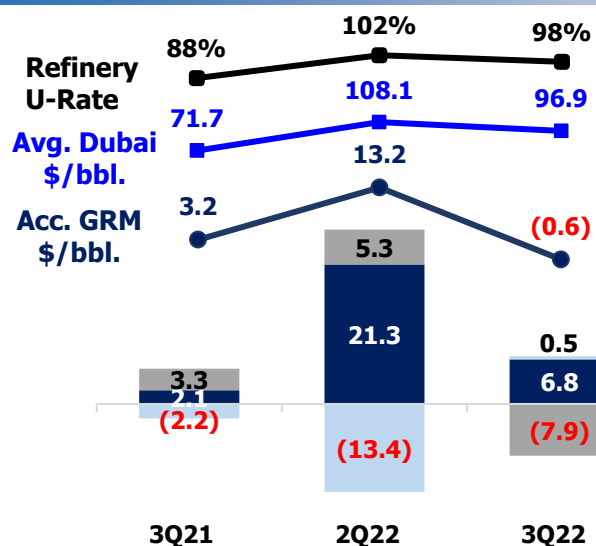
QoQ: Declined performance from refinery business due to soften Mkt GRM & stock loss, and petrochemical business due to lower product spreads

9M22 vs 9M21: Declined performance from pressured petrochemical business and higher loss on commodity hedging

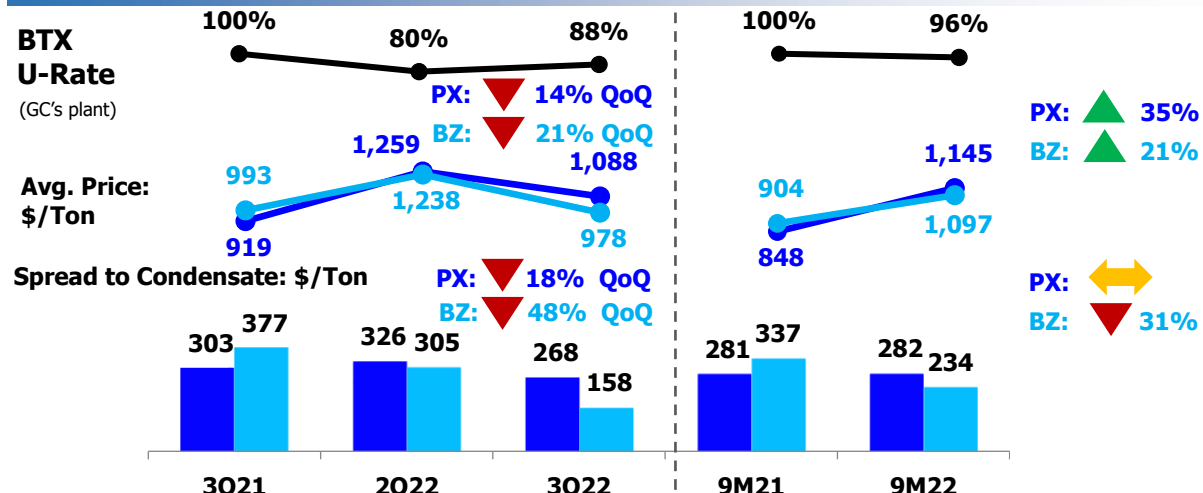
Olefins



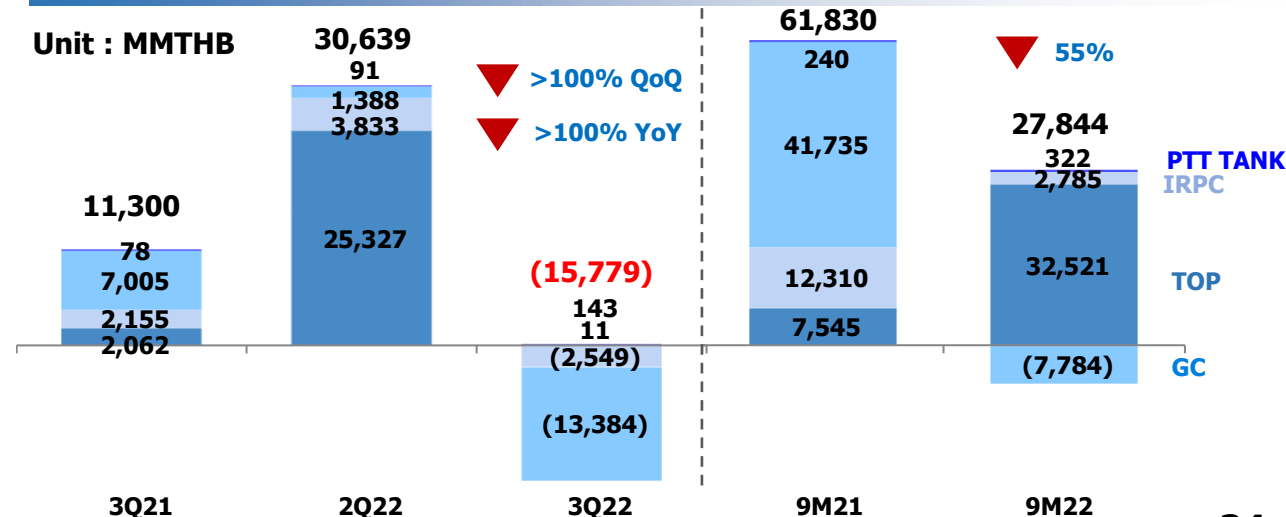
Refinery



Aromatics



Net Income (100%)

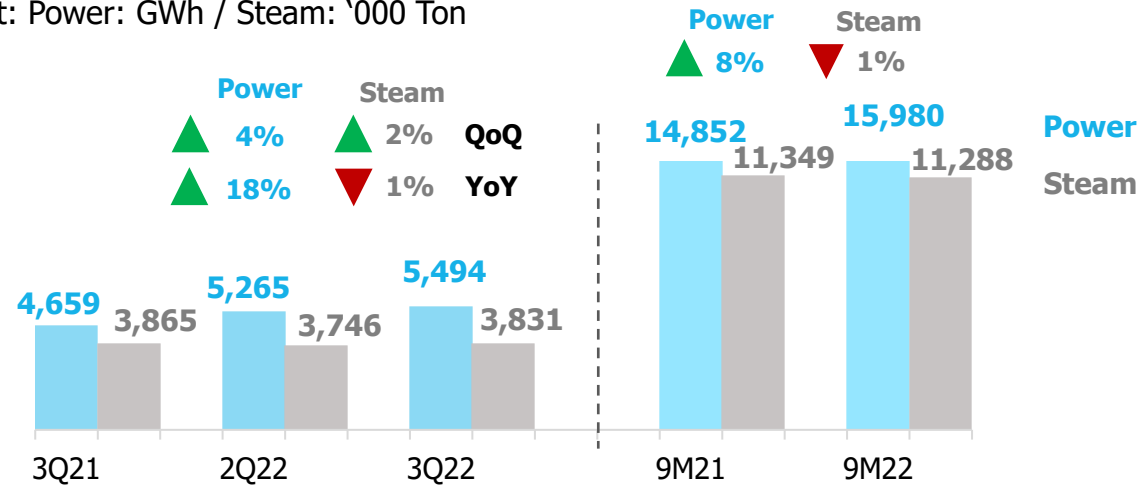


NBI: Power - GPSC

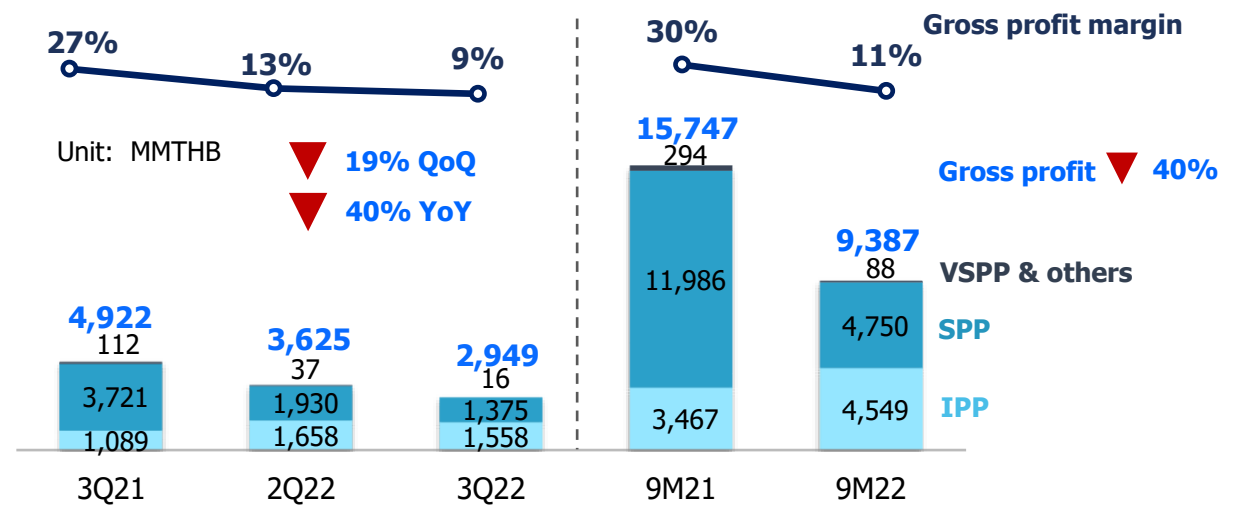
QoQ & 9M22 vs 9M21: Dropped NI due to lower SPP's margin from significant increased in natural gas and coal costs, despite higher shares of profit from Xayaburi Power Plant

Sales Volume

Unit: Power: GWh / Steam: '000 Ton

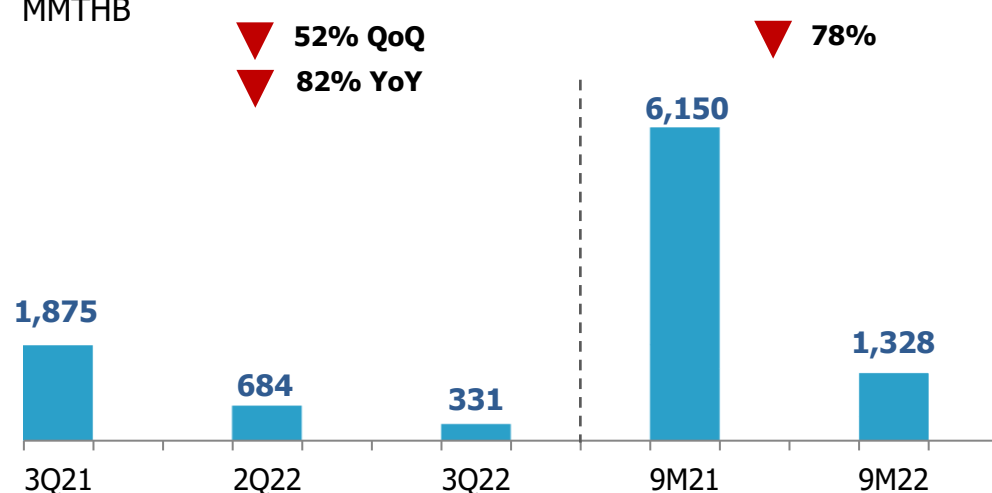


Gross profit & Gross profit margin



Net Income

Unit: MMTHB



QoQ ▼

- Lower gross profit
 - SPP: lower margin in selling electricity to industrial customers due to higher fuel costs
 - IPP: lower AP mainly from planned and unplanned maintenance outages
- + Higher shares of profit from Xayaburi Power Plant due to rainy reason

9M22 vs 9M21 ▼

- Lower gross profit
 - SPP: significantly increased in natural gas and coal costs resulting in lower margin of electricity sales to industrial customers
- + IPP: higher EP from higher electricity dispatched EGAT
- + Higher shares of profit from Xayaburi Power Plant due to higher water level

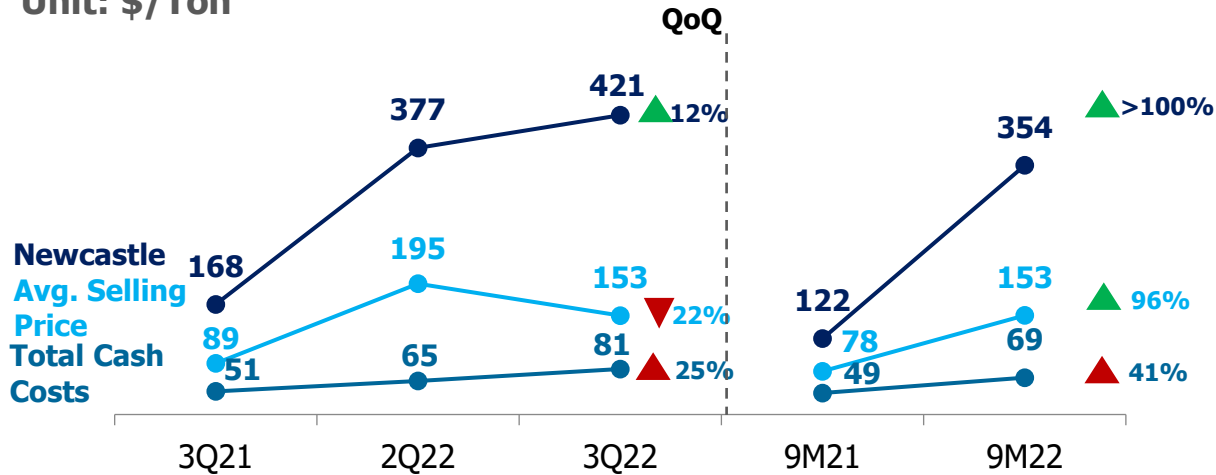
Other Business : Coal business (SAR)

QoQ: NI decreased owing to higher cash cost as well as lower average selling prices & sales volume

9M22 VS 9M21: NI enhanced due to the increase in average selling prices following Newcastle price and higher sales volume

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

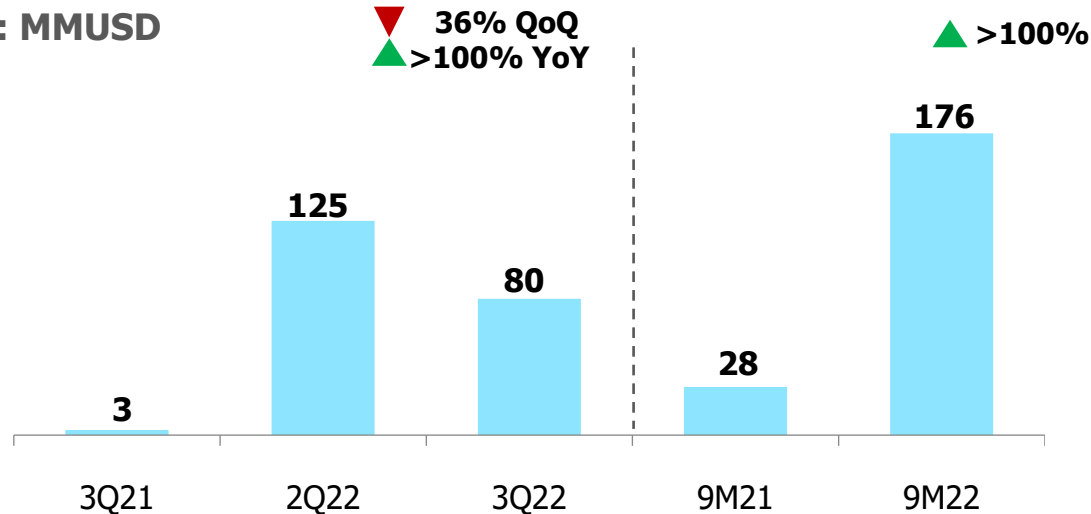
Unit: \$/Ton



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

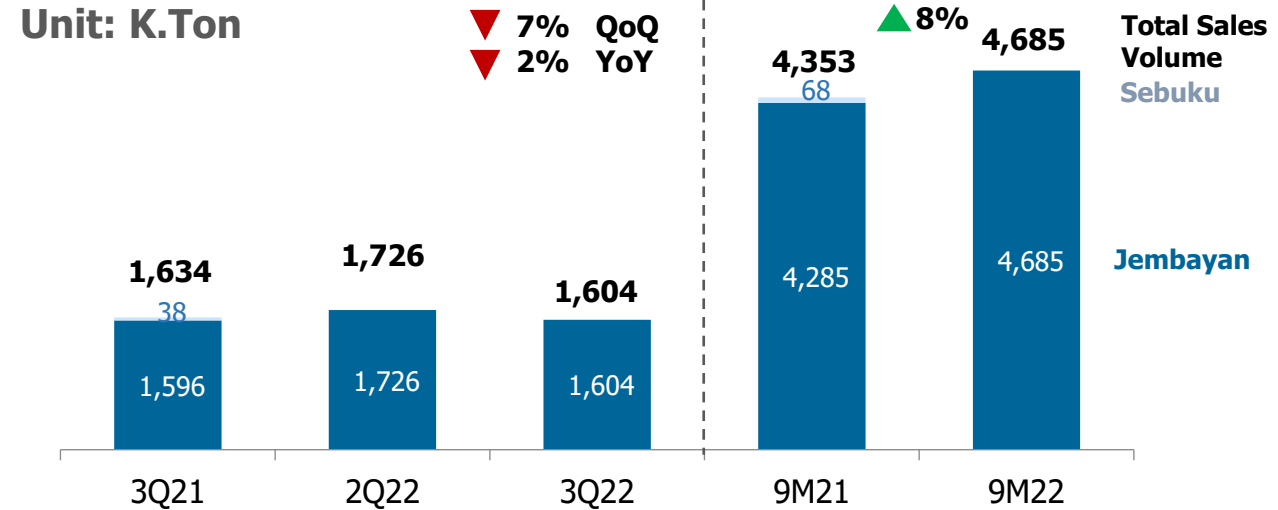
Net Income (100%)

Unit: MMUSD



Sales Volume

Unit: K.Ton



Key Highlights

QoQ ▼

- Higher cash cost following the rising Newcastle price, stripping ratio and dumping distance as well as an increase in royalty rate in Indonesia
- Lower average selling prices despite higher Newcastle price due to the decrease in index-linked sales' portion of total sales revenue
- Sales volume decreased caused by the heavy rains

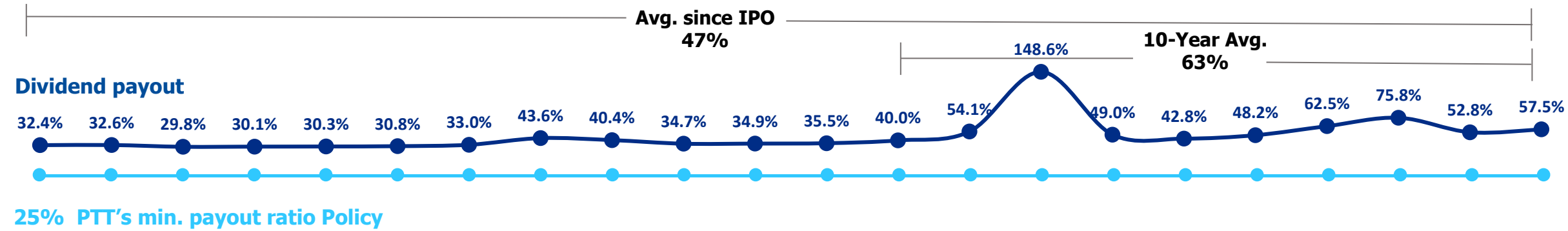
9M22 VS 9M21 ▲

- + Average selling prices significantly increased following rising Newcastle price
- + Sales volume increased due to higher production from higher demand
- Cash cost rose due to higher Newcastle and gas oil prices and higher royalties expense.

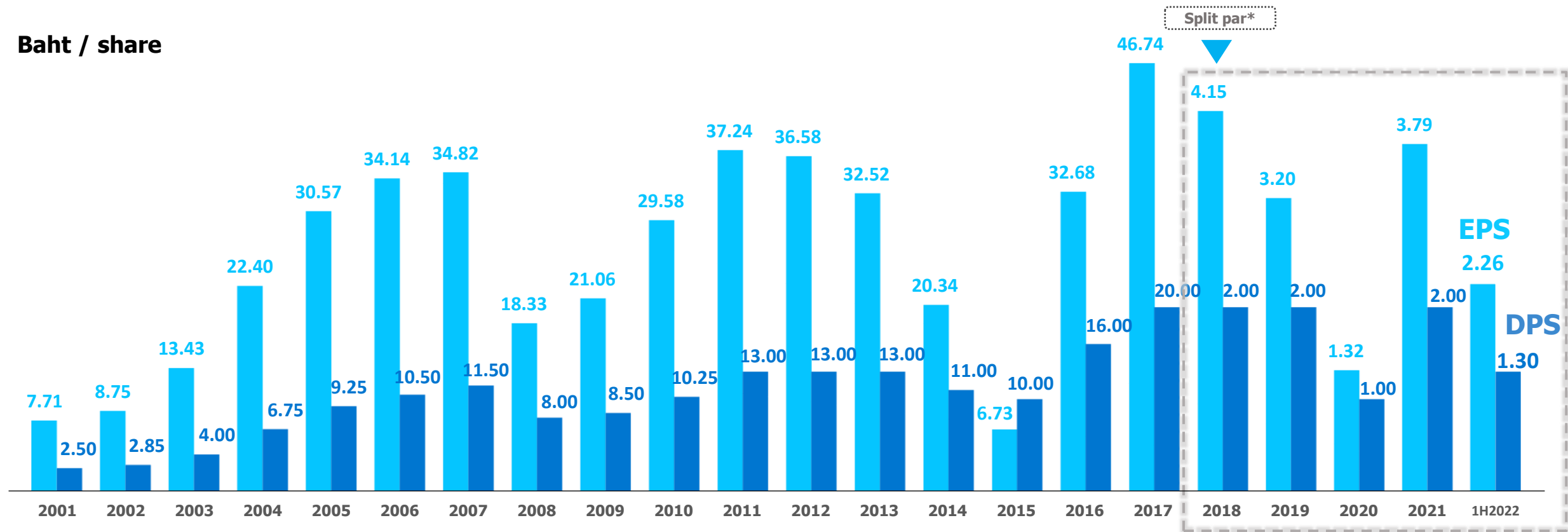
Dividend Policy & Historical Payments



1H2022 Dividend payout at 57.5%



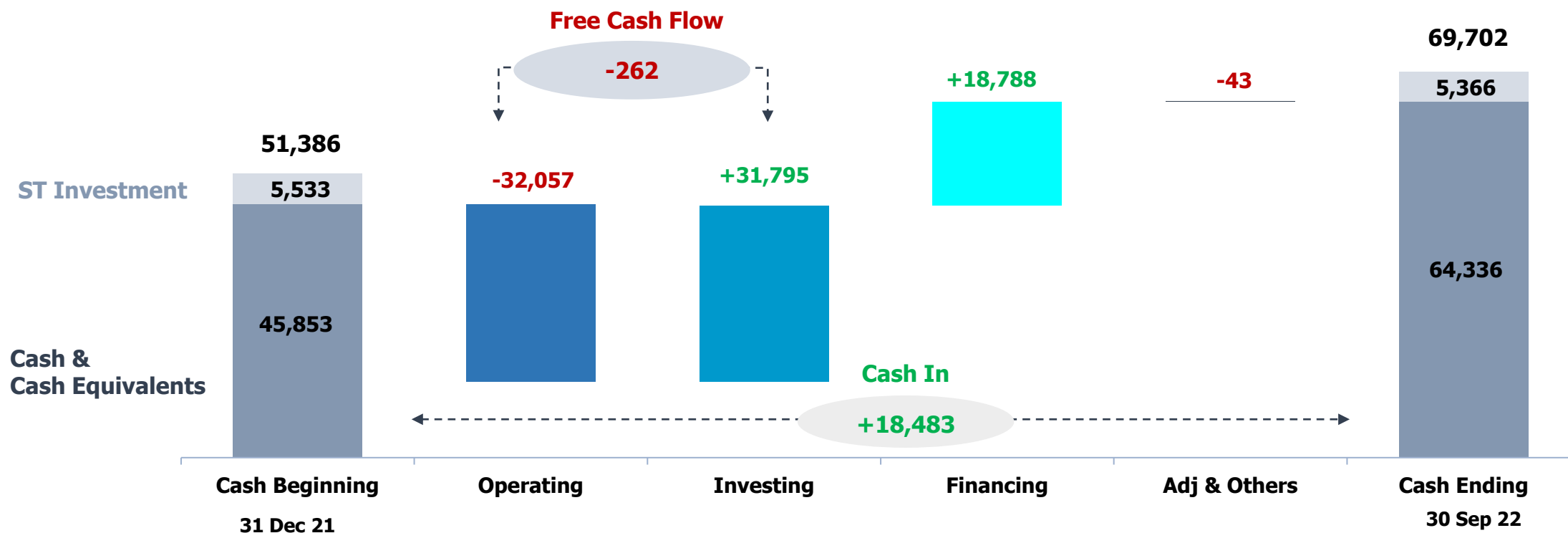
Baht / share



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

PTT Only Cash Flows 9M22

Unit : MMTHB



Operating	(32,057)
Changes in assets & liabilities	(68,878)
Income Tax	(6,764)
Non-Cash Adjustment	(433)
Net Income	44,018

Investing	31,795
Proceeds from lending	63,120
Dividend/Interest Received	36,907
Current investment	999
Investment (Sub. & Affiliates)	(58,683)
CAPEX (PP&E, Intangible asset)	(10,548)

Financing	18,788
Received from loans/Bonds	47,237
Other	30
Dividend paid	(22,851)
Finance cost paid	(5,628)

PTT Group Performance : 3Q2022 (QoQ & YoY)



Unit : MMTHB	Performance 100%					% PTT holding	Equity Method % PTT				
	3Q21	2Q22	3Q22	QoQ	YoY		3Q21	2Q22	3Q22	QoQ	YoY
PTT Net Operating Income	8,248	7,945	(6,566)	<-100%	<-100%		8,248	7,945	(6,566)	<-100%	<-100%
E&P - PTTEP	9,545	20,600	24,172	17%	>100%	65.29%	6,231	13,420	15,768	17%	>100%
Petrochemical	7,083	1,479	(13,241)	<-100%	<-100%		3,545	491	(5,968)	<-100%	<-100%
- GC	7,005	1,388	(13,384)	<-100%	<-100%	48.18%	3,467	399	(6,110)	<-100%	<-100%
- Other	78	91	143	57%	83%		78	92	142	54%	82%
Refining	4,217	29,160	(2,537)	<-100%	<-100%		693	3,998	(1,602)	<-100%	<-100%
- TOP	2,062	25,327	12	-100%	-99%	48.03%	(337)	2,196	(432)	<-100%	-28%
- IRPC	2,155	3,833	(2,549)	<-100%	<-100%	48.05%	1,030	1,802	(1,170)	<-100%	<-100%
Oil - OR	1,893	6,568	701	-89%	-63%	75.00%	1,410	4,896	577	-88%	-59%
NBI - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	2,262	1,022	586	-43%	-74%		974	265	270	2%	-72%
Others Business	3,344	9,017	6,377	-29%	91%		2,552	7,752	6,424	-17%	>100%
Inter - PTTER/PTTGM	538	4,110	2,325	-43%	>100%	100.00%	36	3,319	2,461	-26%	>100%
Gas - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	2,412	2,821	1,508	-47%	-37%		2,118	2,320	1,440	-38%	-32%
Other - PTTT/Others ^{1/}	394	2,086	2,544	22%	>100%		398	2,113	2,523	19%	>100%
Shared of Net Income from Affiliates	28,344	67,846	16,058	-76%	-43%		15,405	30,822	15,469	-50%	0%
Tax Adjustment for Gain on Disposal of Investment and Asset	-	81	(19)	<-100%	-100%		-	81	(19)	<-100%	-100%
PTT Consolidated Net Income	36,592	75,872	9,473	-88%	-74%		23,653	38,848	8,884	-77%	-62%

1/Including PTTGE,BSA, and PTT TCC

PTT Group Performance : 9M22 vs 9M21

Unit : MMTHB	Performance 100%			% PTT holding	Equity Method % PTT		
	9M21	9M22	9M22 vs 9M21		9M21	9M22	9M22 vs 9M21
PTT Net Operating Income	26,341	9,122	-65%		26,341	9,122	-65%
E&P - PTTEP	28,218	55,291	96%	65.29%	18,419	36,060	96%
Petrochemical	41,975	(7,462)	<-100%		9,689	(3,422)	<-100%
- GC	41,735	(7,784)	<-100%	48.18%	9,449	(3,744)	<-100%
- Other	240	322	34%		240	322	34%
Refining	19,855	35,307	78%		8,100	5,849	-28%
- TOP	7,545	32,522	>100%	48.03%	2,284	4,563	100%
- IRPC	12,310	2,785	-77%	48.05%	5,816	1,286	-78%
Oil - OR	9,121	11,114	22%	75.00%	7,288	8,371	15%
NBI - GPSC/TP/DCAP/PTTES/PTTDIGITAL/ENCO	22,002	2,249	-90%		2,662	795	-70%
Others Business	9,656	19,090	98%		8,018	16,466	>100%
Inter - PTTER/PTTGM	1,414	7,173	>100%	100.00%	532	5,403	>100%
Gas - PTTLNG/PTTNGD/PTTGL/TTM(T)/TTM(M)	6,949	6,479	-7%		6,186	5,617	-9%
Other - PTTT/Others^{1/}	1,293	5,438	>100%		1,300	5,446	>100%
Shared of Net Income from Affiliates	130,827	115,589	-12%		54,176	64,119	18%
Tax Adjustment for Gain on Disposal of Investment and Asset	302	62	-79%		302	62	-79%
PTT Consolidated Net Income	157,470	124,773	-21%		80,819	73,303	-9%

1/Including PTTGE,BSA, and PTT TCC

PTT Group Accounting Structure



Data as of 30 Sep 2022

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%			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 51.00% ^{2/}			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/}		
New Business and Infrastructure Business Group			International Investment Business Group			Others		
Subsidiaries Global Power Synergy Plc. ^{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 Veolia Sustainable Solution (Thailand) Co.,Ltd. VSS 40.00%		
Others Baania (Thailand) Company Ltd. Baania 2.73% HG Robotics Plc. HG Robotics 9.47% Innospace (Thailand) Innospace 13.61% Sunfolding, Inc. Sunfolding 5.59% Luminar Technologies, Inc. Luminar Technologies 0.07% Ample, Inc. AMPLE 1.13% Shenzhen Immotor Technology Co., Limited IMMOTOR 3.05% NTG Holding Pte. Ltd. NT 14.69%						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)

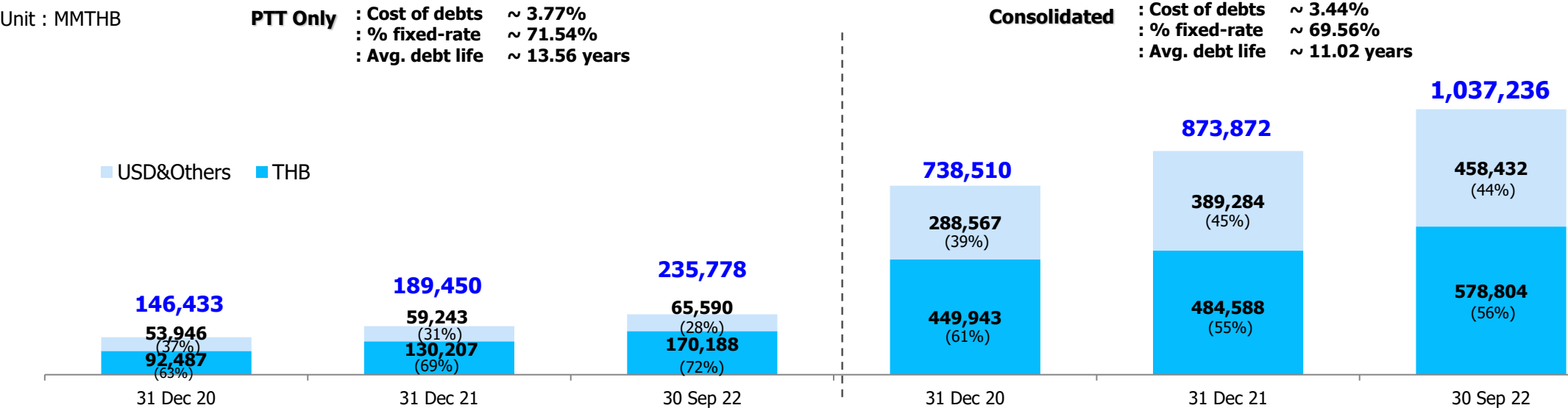
^{3/} PTT holds 100.00% of BSA's ordinary shares, PTT's ownership interest in BSA is 100%

Debt Profile : Control Cost & Manage Risk



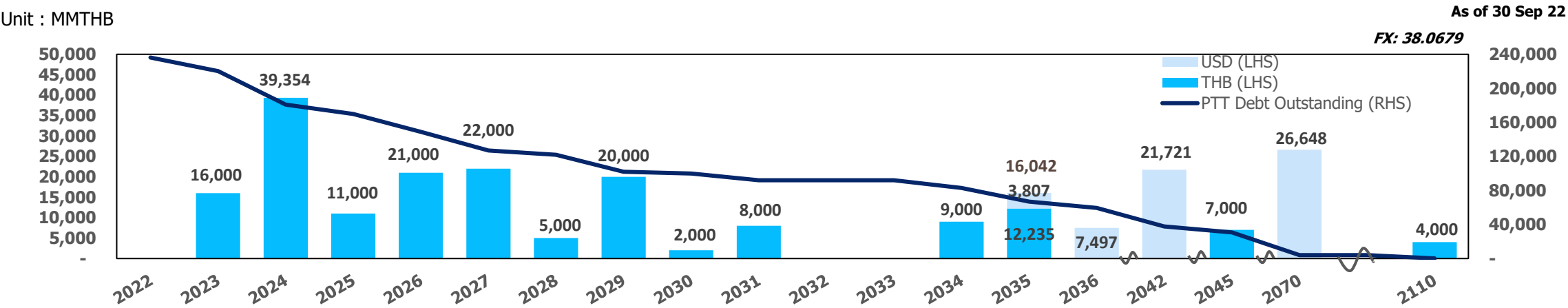
Managed debt according to financial risk and policy

Debt Portfolio



Note : 1. PTT Data as of 30 Sep 22 (THB/USD = 38.0679 THB/JPY = 0.2659) 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 22).

PTT Only : Debt Outstanding and Repayment Profile

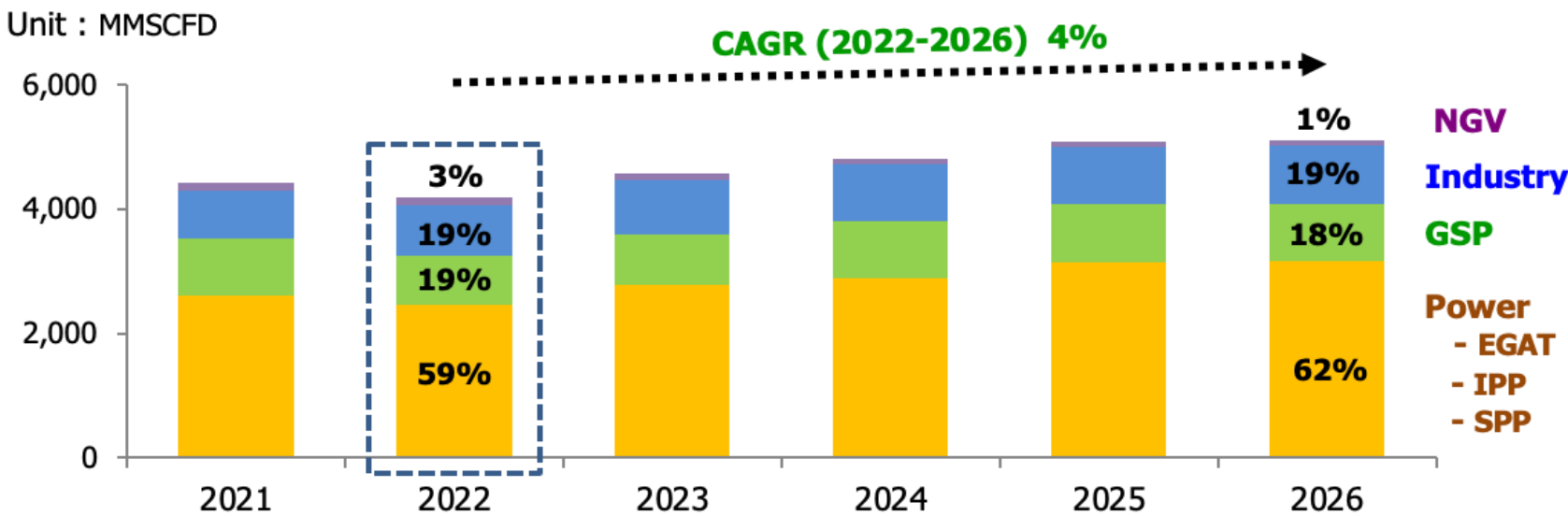


Note: 1. Debt Outstanding for Repayment Profile represents financial data and portion after derivative swaps
2. Bond repayment amounting 6,236 MB in 2035 is USD swaps to THB

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

Short term Gas Demand growth be maintained

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



New Supply Additional capacity (mmscfd)		Bongkot 700		Erawan 800	
Major Project : COD & Capacity/		RA#6 Pipeline		LNG Terminal 2 +7.5 MTA	
Accumulate Pipeline distance		5th pipeline 4,702 KM		BPK-SB** pipeline ~56KM 4,758 KM	
		GSP#7* 460 mmscfd		GSP#8 (Ethane 1.07 MTA, LPG 0.11 MTA)	

*Replace GSP#1 **Bang Pakong– South Bangkok Power Plant

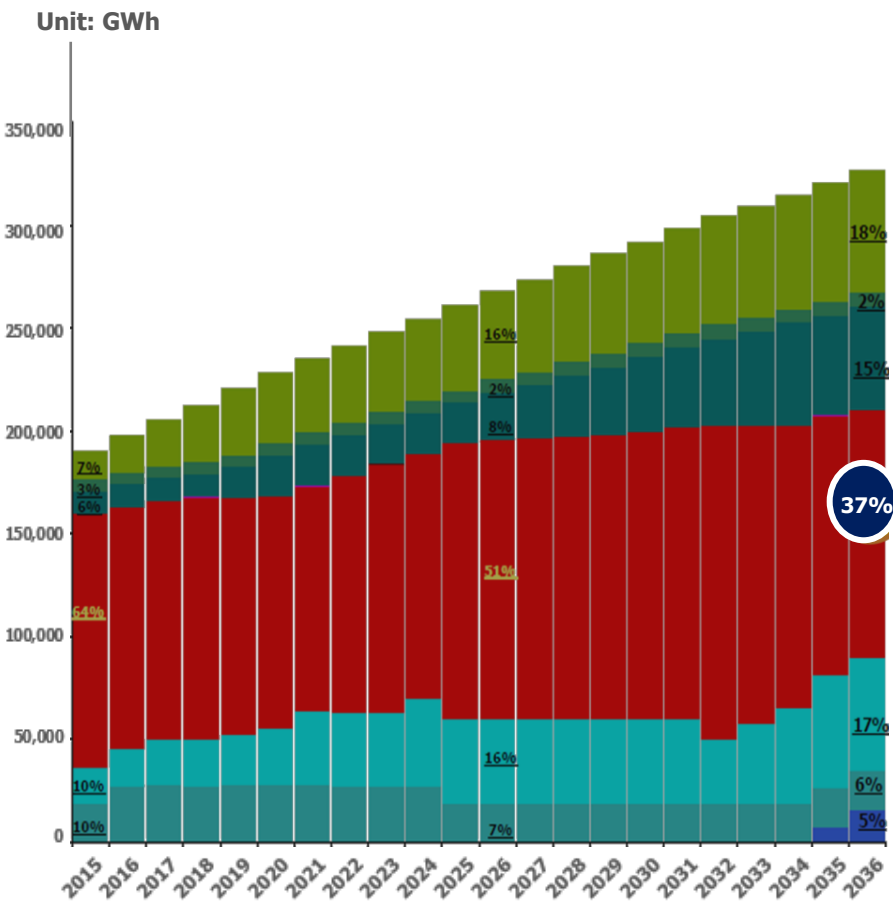
Newly Thailand Power Development Plan



Stronger demand of NG for power plants

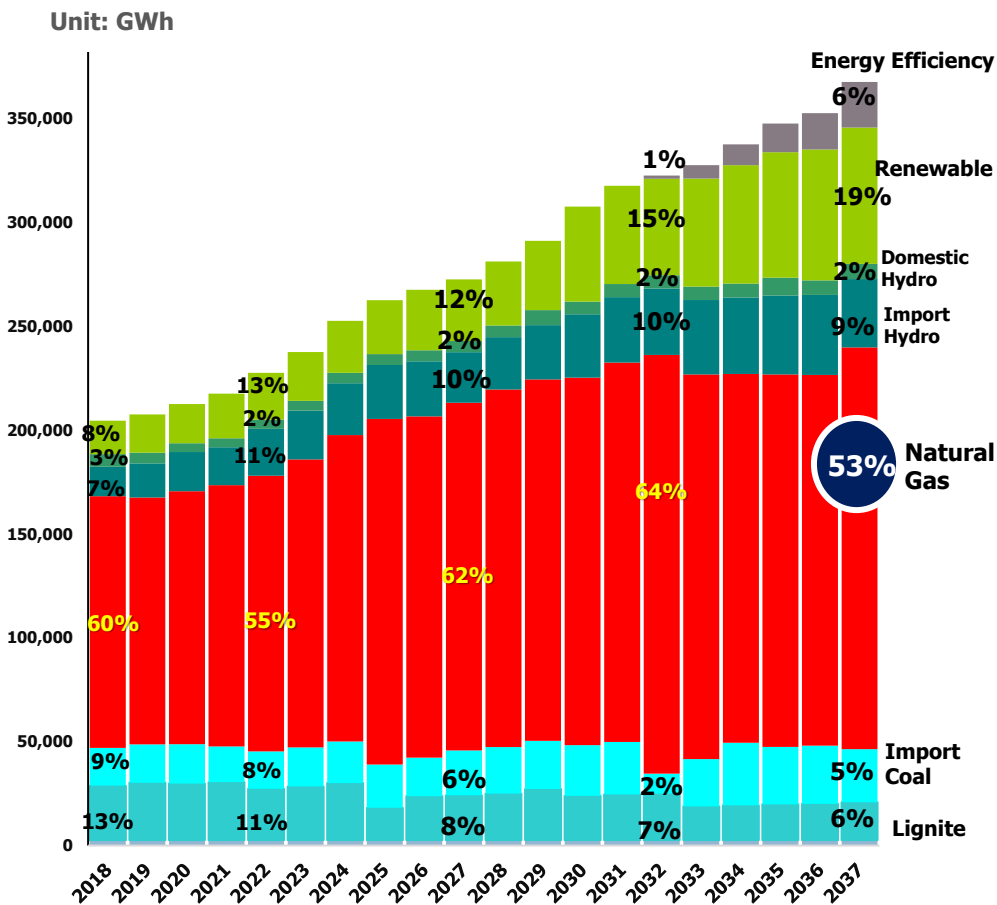
PDP 2015*

Natural Gas growth upon
Government fuel diversification policy
for power generation



PDP 2018 Rev.1**

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



*Source: Ministry of Energy

** Source : EPPO (Public Hearing presentation)

Natural Gas Demand

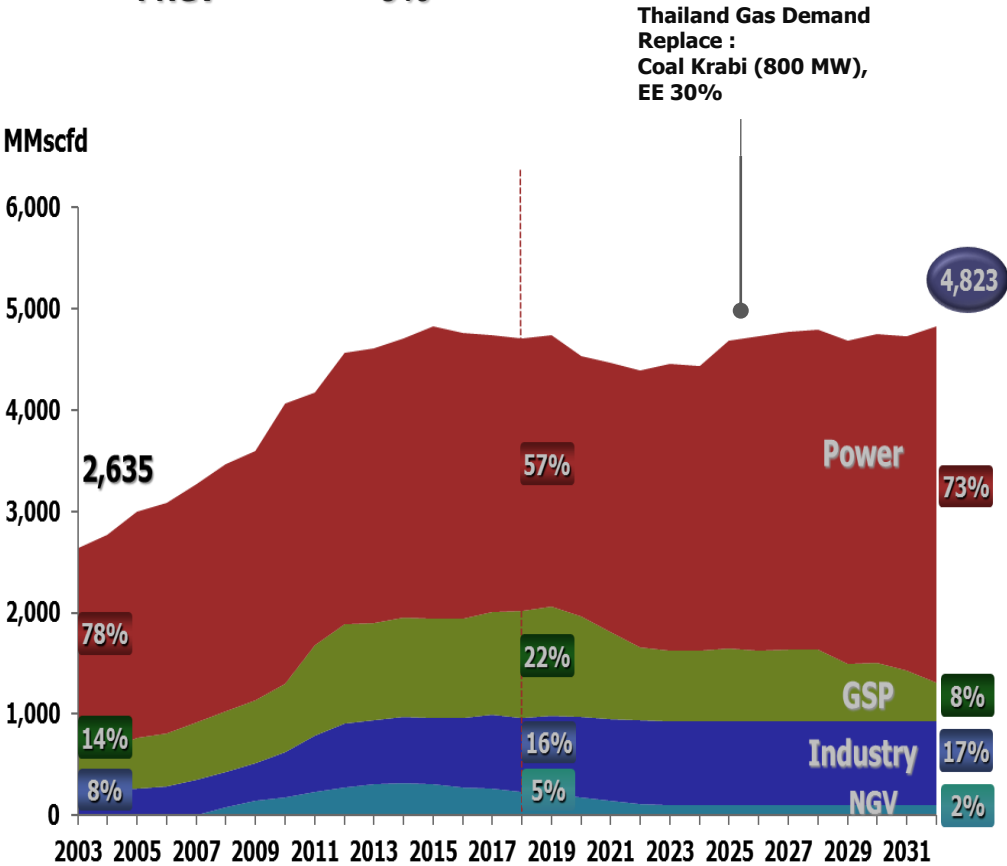


Growth of natural gas upon Government fuel diversification policy for power generation

Old*

Thailand Gas demand forecast (CAGR during 2018-2032)

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

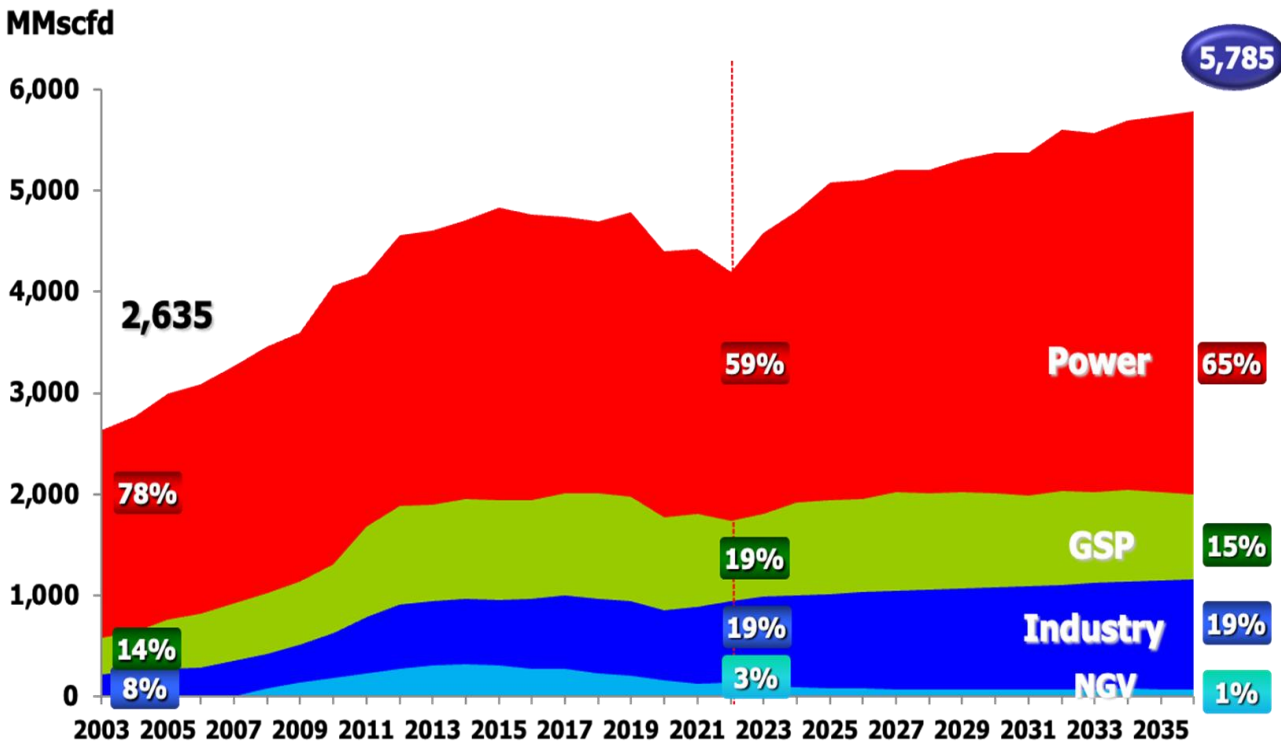


*Source: Ministry of Energy

NEW**

Thailand Gas demand forecast (CAGR during 2022-2036)

: Total	~	2%
: Power	~	3%
: GSP	~	0.5%
: Industry	~	2%
: NGV	~	-4%



** Source : PTT Business plan 2022 approved by BOD on 16 Dec 2021

Natural Gas Price Structure : As of Sep 2022

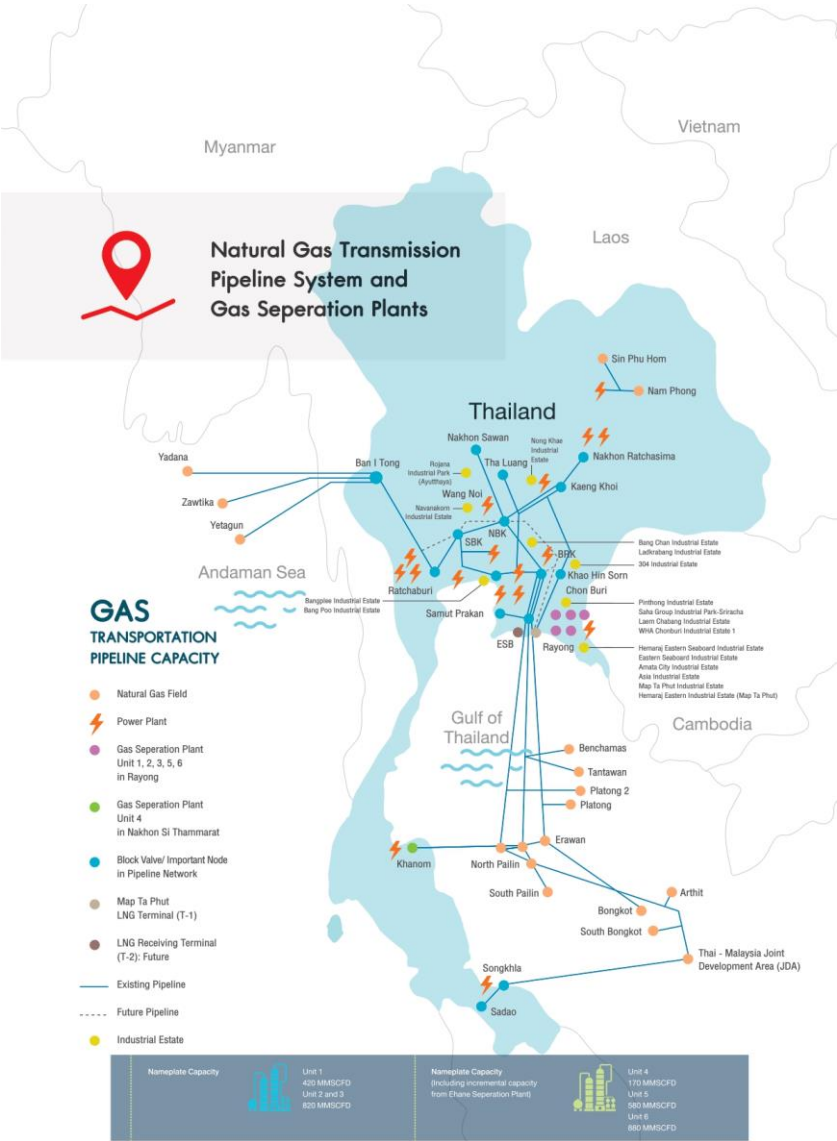
Gas prices are mostly agreed under long term contracts and volatility pass-through to ensure stable returns



Overview

- ✓ Sole owner and operator of entire gas transmission pipelines in Thailand (~ 4,000 km), a regulated business
 - WACC ranges between 6.5% - 7.3% 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