

27 NOVEMBER 2020

THAILAND / PETROCHEM &amp; CHEMICALS

PTT GLOBAL CHEMICAL

PTTGC TB

BUY

UNCHANGED

TARGET PRICE	THB69.00
CLOSE	THB59.25
UP/DOWNSIDE	+16.5%
PRIOR TP	THB50.00
CHANGE IN TP	+38.0%
TP vs CONSENSUS	+26.0%

## From muddy 2019-20 to shiny 2021

### ผ่านปีที่เลวร้ายไปแล้ว

เราเชื่อว่าแนวโน้มกำไรสุทธิของ PTTGC ในปี 2021 มีความท้าทายน้อยกว่าในปี 2019-2020 จาก Olefins Margins และ Gross Refining Margin (GRM) ที่กำลังปรับตัวดีขึ้น ซึ่งควรให้ผลดีที่มากกว่าแนวโน้ม Aromatics Margin ที่อ่อนแอของบริษัทฯ ในปี 2020 เราคาดว่า PTTGC จะยังได้รับผลกระทบอย่างมีนัยสำคัญจากผลขาดทุนสินค้าคงคลัง รวมถึง Market Gross Refining และ Aromatics Margins ที่ตกต่ำ อย่างไรก็ตาม เราเห็นว่ากำไรสุทธิของ PTTGC จะกลับสู่ระดับปกติมากยิ่งขึ้นในปี 2021 จาก GRM และ Olefins Margins ที่ปรับตัวดีขึ้น

### กำไรสุทธิมีแนวโน้มเติบโตดีในปี 2021

เราเชื่อว่าปัจจัยสำคัญที่จะผลักดันการเติบโตของกำไรสุทธิในปี 2021 จะอยู่ที่กำลังการผลิตเพิ่มเติมจาก 2 โครงการหลักของ PTTGC ในลำดับแรกคือ Naphtha Cracker Olefins Reconfiguration Project (ORP) ขนาด 0.75mtpa ซึ่งมีกำหนดเสร็จสิ้นและเริ่มดำเนินงานเชิงพาณิชย์ได้ในเดือน ก.พ. 2021 ล่าช้าจากกำหนดเดิมไป 2 เดือนจากผลกระทบของ COVID-19 ในลำดับที่สองประกอบด้วยโรงงาน Propylene Oxide (PO) และโรงงาน Polyol ปลายน้ำ ซึ่งเริ่มดำเนินงานเชิงพาณิชย์ไปแล้วใน 3Q20

### การฟื้นตัวของธุรกิจโรงกลั่นอยู่แค่เอื้อม

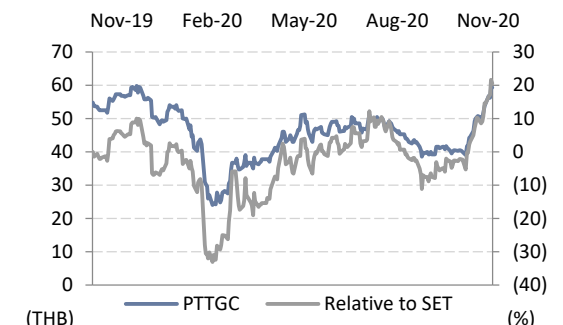
แม้ว่าโรงกลั่นของบริษัทฯ จะใช้วัตถุดิบที่ต่างออกไป ส่วนมากมาจาก Condensate Splitter Units ของบริษัทฯ ธุรกิจโรงกลั่นของ PTTGC ยังคงได้ผลกระทบในช่วง 9M20 จากความต้องการและ Product Margins ที่ตกต่ำเนื่องจากปัญหาการแพร่ระบาด COVID-19 อย่างไรก็ตาม เราคาดว่าธุรกิจโรงกลั่นของ PTTGC จะพลิกมารายงานกำไรได้นับตั้งแต่ 4Q20 เป็นต้นไปจาก 1) Margins ที่ดีขึ้นของน้ำมันดีเซล อากาศยาน และเบนซินเมื่อเทียบกับน้ำมัน Dubai; และ 2) กำไรพิเศษจากสินค้าคงคลังหลังราคาน้ำมันปรับตัวเพิ่มสูงขึ้น

### คงแนะนำซื้อหลังปรับราคาเป้าหมายเป็น 69 บาท

เราปรับลดประมาณการกำไรต่อหุ้นของเราในปี 2020 ลง 52.1% เพื่อสะท้อนผลขาดทุนจากสินค้าคงคลังที่สูงกว่าคาดและ Market GRM ที่ต่ำกว่าคาด แต่ปรับเพิ่มประมาณการกำไรต่อหุ้นของเราในปี 2021-2022 ขึ้น 1.8-16.1% เพื่อสะท้อนการเปลี่ยนสมมติฐานราคา Polyethylene (PE) และ Margins เมื่อเทียบกับนาฟทา เราเห็นว่าความต้องการผลิตภัณฑ์ PE จะฟื้นตัวแรงยิ่งขึ้นและราคาผลิตภัณฑ์ PE ควรถูกผลักดันด้วยราคาน้ำมันที่สูงขึ้น โดยเราคาดว่าเราจะเพิ่มขึ้นจาก USD40/bbl ในปี 2020 เป็น USD50/bbl ในปี 2021-2022 ทำให้เราปรับเพิ่มราคาเป้าหมายของเราจาก 50 บาทคิดจาก 2020E EV/EBITDA ที่ 8.0x เป็น 69 บาทคิดจาก 2021E EV/EBITDA ที่ 9.5x ซึ่งเป็นอัตราที่สูงกว่าค่าเฉลี่ยย้อนหลัง 8 ปีที่ 7.8x เพื่อสะท้อนแนวโน้ม Olefins Margin ของ PTTGC ในระยะกลาง

## KEY STOCK DATA

YE Dec (THB m)	2019	2020E	2021E	2022E
Revenue	412,810	309,756	360,740	372,127
Net profit	11,682	(3,960)	18,515	24,134
EPS (THB)	2.59	(0.88)	4.11	5.35
vs Consensus (%)	-	nm	63.7	60.8
EBITDA	25,972	22,355	39,554	46,840
Core net profit	9,919	4,602	18,515	24,134
Core EPS (THB)	2.20	1.02	4.11	5.35
Chg. In EPS est. (%)	-	(52.1)	16.1	1.8
EPS growth (%)	(75.6)	(53.6)	302.4	30.3
Core P/E (x)	26.9	58.0	14.4	11.1
Dividend yield (%)	13.1	7.2	6.0	11.8
EV/EBITDA (x)	13.7	15.4	8.4	6.9
Price/book (x)	0.9	1.0	1.0	1.0
Net debt/Equity (%)	27.4	27.1	22.0	19.8
ROE (%)	3.4	1.7	7.0	9.2



Share price performance	1 Month	3 Month	12 Month
Absolute (%)	47.2	22.2	8.7
Relative to country (%)	24.0	12.7	22.0
Mkt cap (USD m)	8,785		
3m avg. daily turnover (USD m)	29.5		
Free float (%)	51		
Major shareholder	PTT Plc. (48%)		
12m high/low (THB)	61.25/21.40		
Issued shares (m)	4,508.85		

Sources: Bloomberg consensus; FSSIA estimates



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PREPARED BY FSS INTERNATIONAL INVESTMENT ADVISORY SECURITIES CO LTD (FSSIA). ANALYST CERTIFICATION AND IMPORTANT DISCLOSURES CAN BE FOUND AT THE END OF THIS REPORT

บทวิเคราะห์ฉบับนี้แปลมาจากบทวิเคราะห์ของ FSSIA ฉบับวันที่ 27 พฤศจิกายน 2020

## Investment thesis

While PTTGC faces an earnings downside from weak polyethylene (PE) product margins, we think its earnings resilience is high due to earnings growth from non-PE products, including PP, AN, PVC, and its refinery, aromatics, and power units. We estimate that non-PE earnings will likely offset weaker PE earnings throughout 2H18-20.

The weaker PE product margins are due to the ramp-up in US PE exports and the weaker demand from certain emerging markets. While a rising oil price would negatively impact PTTGC's olefins earnings, we think the impact would be more muted than for its naphtha-based peers, as we estimate that PTTGC's gas feedstock cost advantage accounts for two-thirds of its EBITDA.

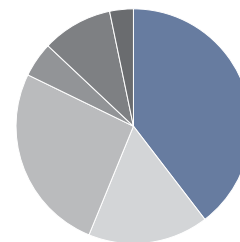
## Company profile

PTTGC was a merger between two previously listed petrochemical companies - PTTCH and PTTAR. PTTGC was listed on 21 October 2011. PTTCH and PTTAR shares were delisted on 11 October 2011 and their shareholders became shareholders of PTTGC based on an agreed swap ratio.

[www.pttgcgroup.com](http://www.pttgcgroup.com)

## Principal activities (revenue, 2019)

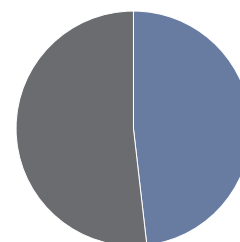
- Refinery and shared facilities - 39.6 %
- Aromatics - 16.6 %
- Olefins and derivatives - 26.0 %
- Green Chemicals - 4.8 %
- Performance materials and chemical - 9.7 %



Source: PTT Global Chemical

## Major shareholders

- PTT Plc. - 48.2 %
- Others - 51.8 %



Source: PTT Global Chemical

## Catalysts

Potential key drivers are a rising HDPE price, a higher market gross refining margin (GRM) and the continued strong margins of AN, PP and PVC.

## Risks to our call

The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin.

## Event calendar

Date	Event
Feb 2021	4Q20/2020 results announcement

## Key assumptions

	2020E	2021E	2022E
Olefin utilisation rate (%)	93.0	94.0	95.0
Refinery utilisation rate (%)	85.0	93.0	95.0
Market GRM (USD/bbl)	1.1	6.0	6.8
Dubai crude price (USD/bbl)	40.0	50.0	50.0
Gasoline-Dubai (USD/bbl)	7	12	13
Jet-Dubai (USD/bbl)	1	15	15
Diesel-Dubai (USD/bbl)	5	11	8
HSFO-Dubai (USD/bbl)	(2)	(5)	(7)
PX-naphtha (USD/bbl)	350	382	382

Source: FSSIA estimates

## Earnings sensitivity

- For every 1% increase in average Dubai oil price, we project 2020 earnings to rise by 1.2%, and vice versa.
- For every 1% increase in market GRM, we estimate 2020 earnings will rise by 0.5%, and vice versa.
- For every 1% increase in HDPE price, we estimate 2020 earnings will rise by 1.8%, and vice versa.

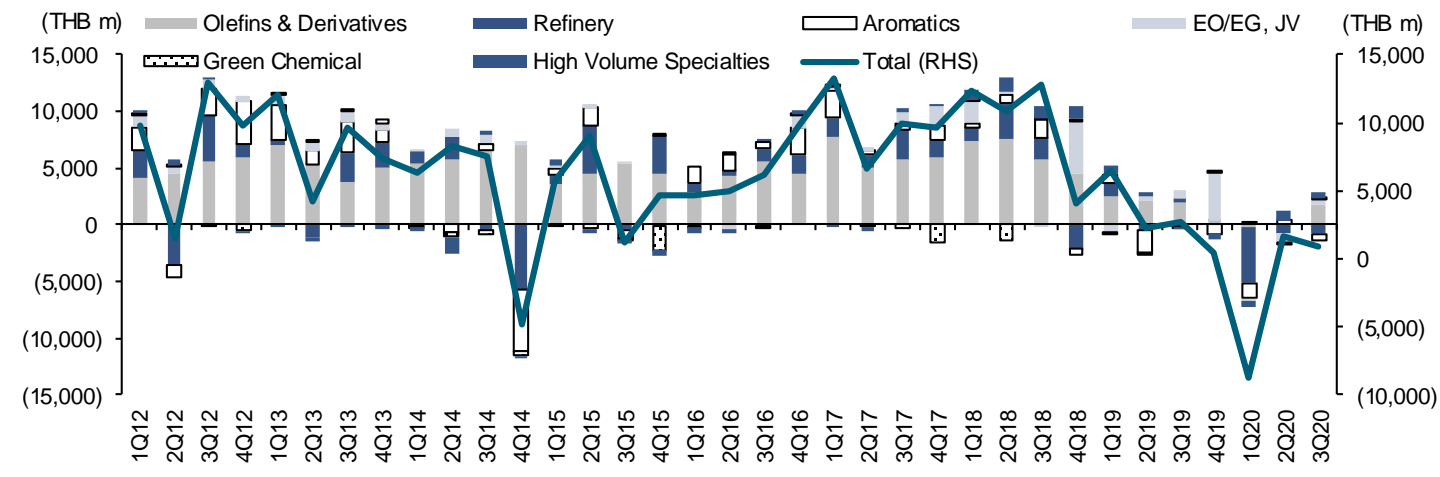
Source: FSSIA estimates



## The worst is now behind

We believe PTTGC is now facing a much less challenging NP outlook in 2021 than in 2019-20, given the improving olefins margins and GRM, which should more than offset the weak aromatics margin outlook. In 2020, we project that PTTGC will still suffer from a significant inventory loss and depressed market gross refining and aromatics margins. However, in 2021, we think PTTGC's NP will return to a more normal level, led by the improving GRM and olefins margins.

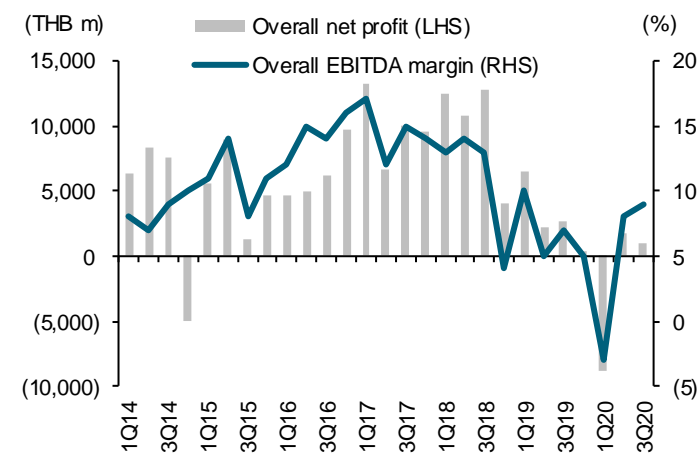
**Exhibit 1: Quarterly net profit breakdown by segment**



Source: PTTGC

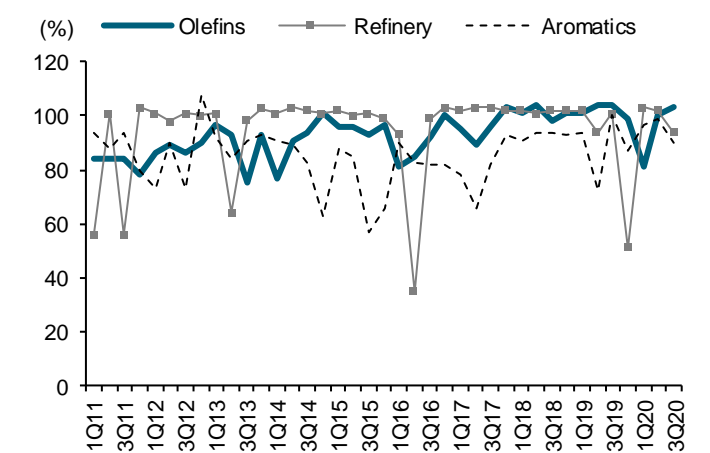
PTTGC's olefins unit – which includes the PE products of high density PE (HDPE), low density PE (LDPE), linear LDPE (LLDPE), monoethylene glycol (MEG), and polypropylene (PP) via its JV – remains the only business unit that has continued to post quarterly net profits in 9M20.

**Exhibit 2: Overall quarterly net profit and EBITDA margin**



Source: PTTGC

**Exhibit 3: Quarterly utilisation rates of key business units**

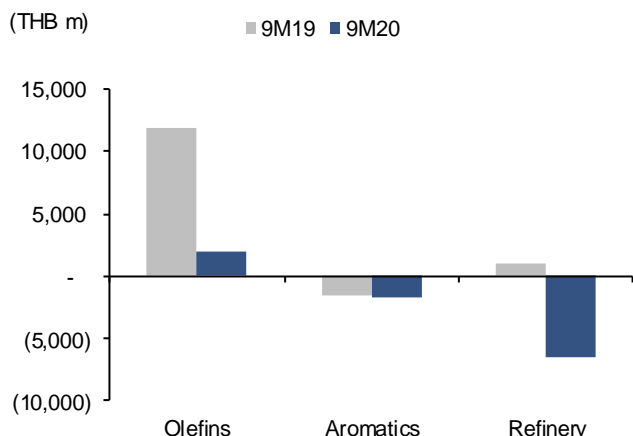


Source: PTTGC

We believe PTTGC's NP is now on a recovery trajectory, led by the olefins unit and backed by the higher demand and rising oil price to drive PTTGC's gas-based olefin cracker.

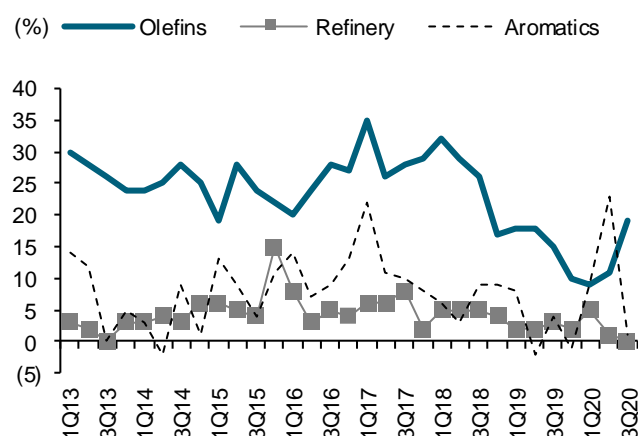
In 9M20, the olefins unit posted an NP of THB2b, down from an NP of THB12b in 9M19. The refinery and aromatics units both registered net losses of THB6.5b and THB1.6b, respectively, due to the depressed GRM and paraxylene-naphtha and benzene-naphtha margins.

Exhibit 4: Net profit breakdown by business (9M19 vs 9M20)



Source: PTTGC

Exhibit 5: EBITDA margin by business unit



Source: PTTGC

We believe the key NP growth drivers in 2021 will be the additional new capacity from PTTGC's two key projects. The first project is the 0.75mtpa naphtha cracker ORP, scheduled to be completed and start its COD in Feb-21 – a two-month delay from its originally scheduled date due to the COVID-19 impact. The second project is the PO plant and its downstream polyol plant, which already commenced its COD in 3Q20.

### Olefins unit could see a light at the end of the tunnel

Among PTTGC's three key business units – olefins & derivatives, aromatics & derivatives, and refinery – olefins is its largest and most significant NP driver, thanks to its 1mtpa ethane cracker's competitive gas feedstock (PTT Polyethylene Co., Ltd (PTTPE, not listed)) and PTTGC's flexible naphtha crackers that can consume LPG as an alternative feedstock.

Starting in 1Q21, PTTGC will add one naphtha cracker (ORP), which could further enhance its overall feedstock flexibility amid the uncertain and rapidly changing feedstock price environment, including the prices for ethane, propane, LPG, and naphtha.

Exhibit 6: Capacity breakdown by plant and feedstock type

Olefin plants	Capacity ('000tpa)	Product	Feedstock type
I1	461	Ethylene	Gas
I1	125	Propylene	Gas
Olefex I	127	Propylene	Gas
I4-1	515	Ethylene	40% Naphtha/ 60% Gas (LPG)
I4-1	310	Propylene	40% Naphtha/ 60% Gas (LPG)
I4-2	300	Ethylene	Gas
I4-2 - Debottleneck	150	Ethylene	Gas
Ethane cracker (PTTPE)	1,000	Ethylene	Gas
Olefins Reconfiguration (ORP)	750	Ethylene/Propylene	Naphtha
Total olefins	3,738		
Aromatics/ Refinery	Capacity (bpd)		
AR 1 Refinery	145,000	Petroleum	Crude
AR 2 Condensate Splitter	65,000	Petroleum/Aromatics	Condensate
AR 3 Condensate Splitter	70,000	Petroleum/Aromatics	Condensate

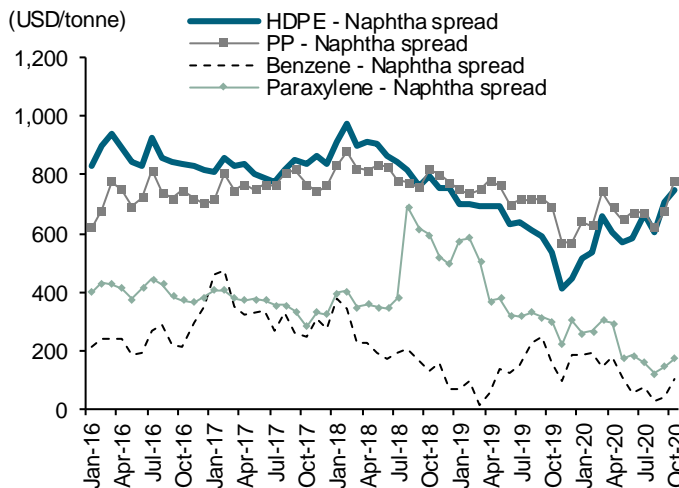
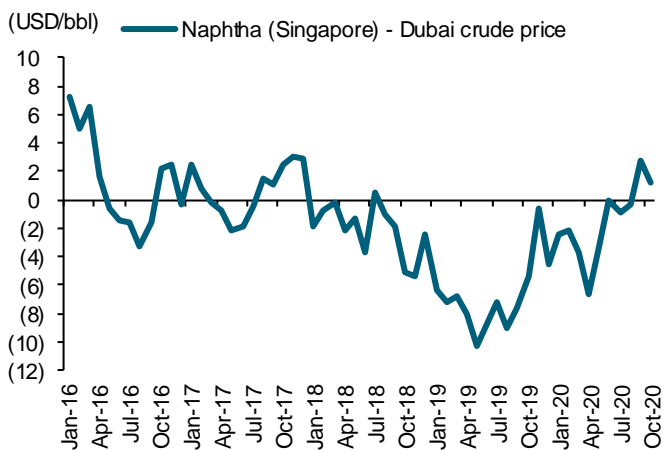
Source: PTTGC

Since the beginning of 2018, the price of naphtha has continued to weaken due to oversupply, mainly from the start-up of new Chinese naphtha crackers and the declining oil price. However, despite the demand disruption resulting from the coronavirus outbreak, the price discount for naphtha vs the Dubai crude oil price has continued to narrow since bottoming in Apr-19, and has returned to a premium level over Dubai oil price since Jul-20, reflecting the tight supply and higher demand for petrochemical products.

While the margins of HDPE and PP over naphtha, the two key product margins for PTTGC's olefins group, have risen from their bottom in 4Q19 due to rising demand, the margins of PX and benzene over naphtha have remained at depressed levels, due to the continued influx of new supply.

**Exhibit 7: Naphtha (Singapore) – Dubai crude price**

**Exhibit 8: Key product margins**

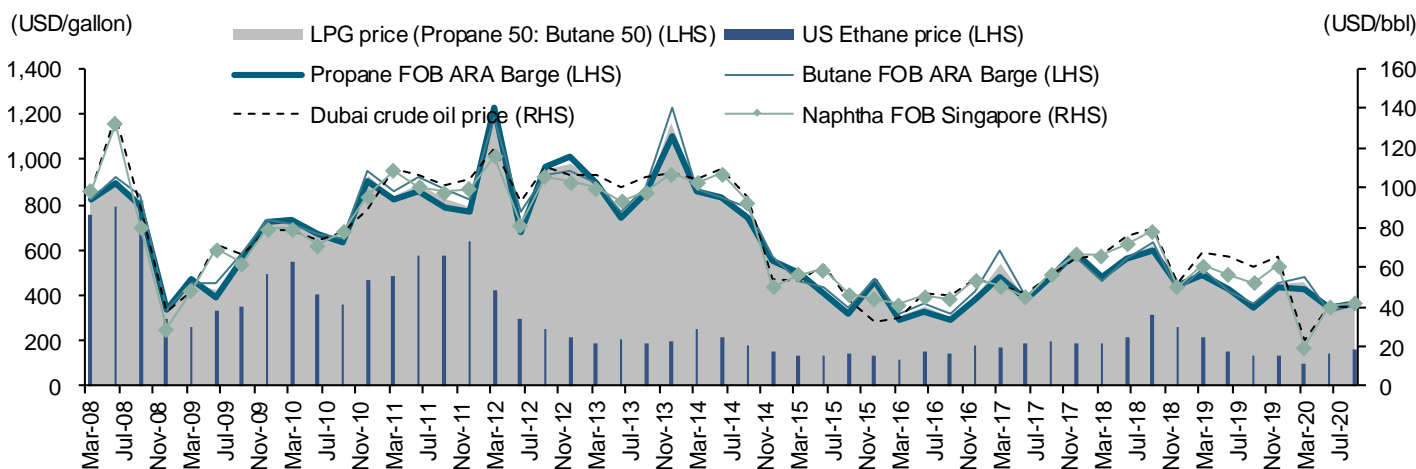


Source: Bloomberg

Source: Bloomberg

As a primary gas-based olefins producer, PTTGC has suffered from the sharp decline in oil price since 1Q20 due to the oil price war between OPEC and Russia and the demand collapse caused by the COVID-19 outbreak in Mar-20. The superior feedstock competitiveness of gas-derived ethane crackers vs oil-derived naphtha crackers has markedly shrunk, reflected in the much narrower price gap between ethane and naphtha.

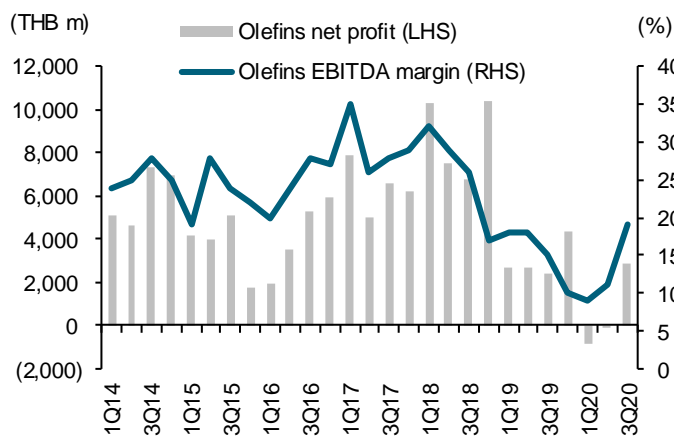
**Exhibit 9: Prices of key petrochemical feedstocks**



Source: Bloomberg

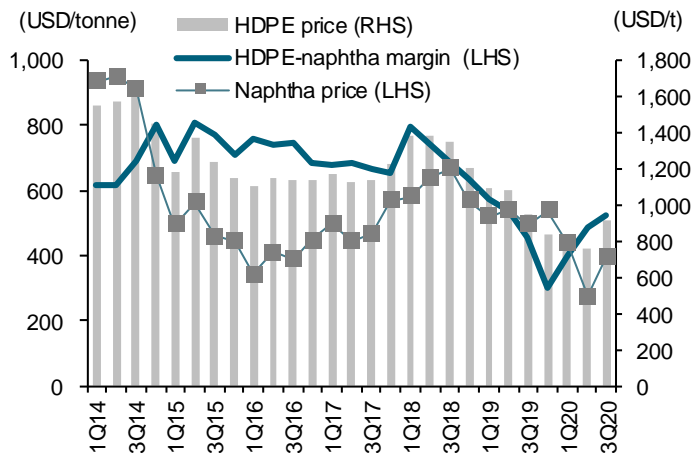
As a result of the oil price decline and the olefins oversupply, PTTGC's EBITDA margin collapsed from an average of 20-30% during 2014-18 down to its bottom at 9% in 1Q20. However, PTTGC's olefins EBITDA margin of HDPE-naphtha has since rebounded to 11% in 2Q20 and 19% in 3Q20. We project that PTTGC's olefins EBITDA margin will rise to 22-25% in 4Q20, driven by the higher oil price, rising demand, and higher utilisation rates.

**Exhibit 10: PTTGC's quarterly olefins net profit and EBITDA margin**



Source: PTTGC

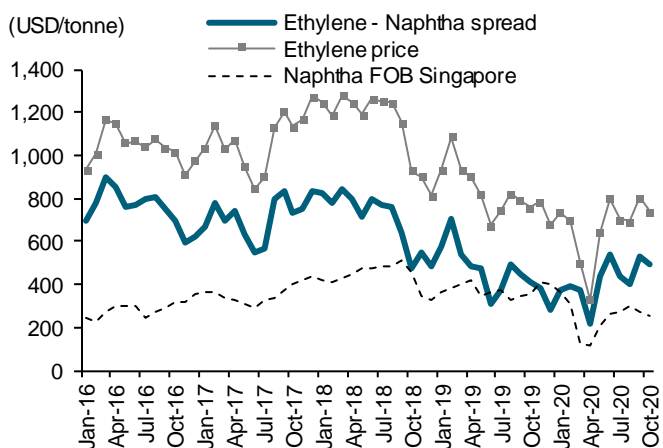
**Exhibit 11: Quarterly HDPE price and HDPE-naphtha margin vs naphtha price**



Source: PTTGC

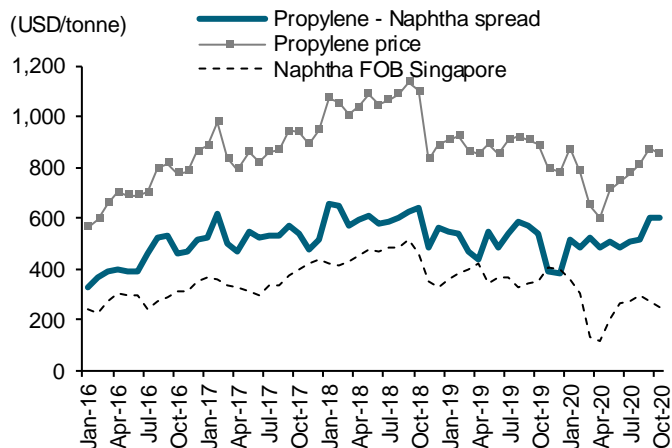
While PTTGC has a relatively integrated ethylene chain for its upstream and downstream capacity, according to our estimate, we think its chemical EBITDA remains exposed to the global ethylene margin cycle, which has been in a downcycle since 2018. The ethylene-naphtha margin has declined from USD800/t in 1Q16 to its bottom at below USD200/t in 1H20.

**Exhibit 12: Naphtha spread – Ethylene**



Source: Bloomberg

**Exhibit 13: Naphtha spread – Propylene**

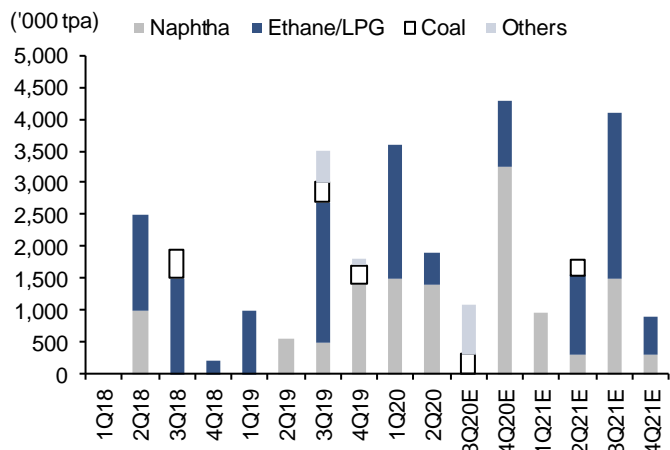


Source: Bloomberg

While the ethylene-naphtha margin has recently started to recover, we think a new supply influx, mainly in China from the naphtha-based ethylene plants, will continue to pressure the ethylene-naphtha margin in 2020-22.

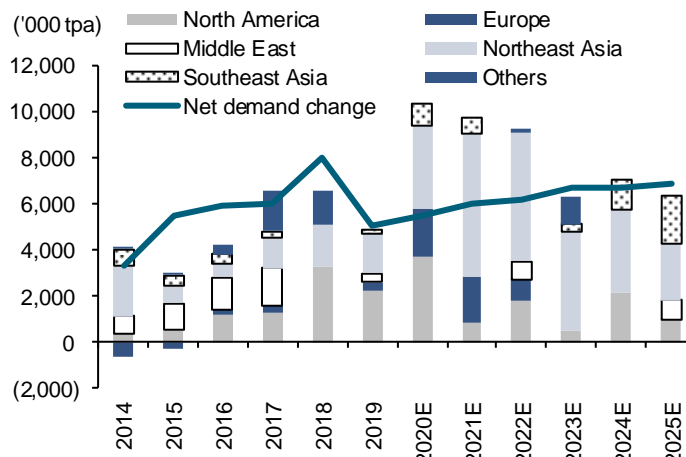
The propylene-naphtha margin has weakened since 4Q18 after a supply influx and weaker demand for automotive parts – one of the key applications for propylene downstream products. However, the propylene-naphtha margin has recovered to USD600/t in Oct-20, the level at which we think olefins producers can be profitable.

**Exhibit 14: Global ethylene capacity addition by feedstock**



Source: Extracted from PTTGC's investor presentation

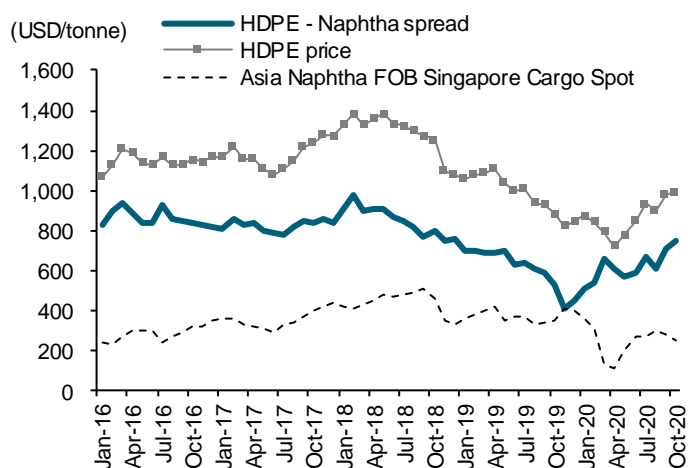
**Exhibit 15: Global ethylene supply addition vs demand growth**



Source: Extracted from PTTGC's investor presentation

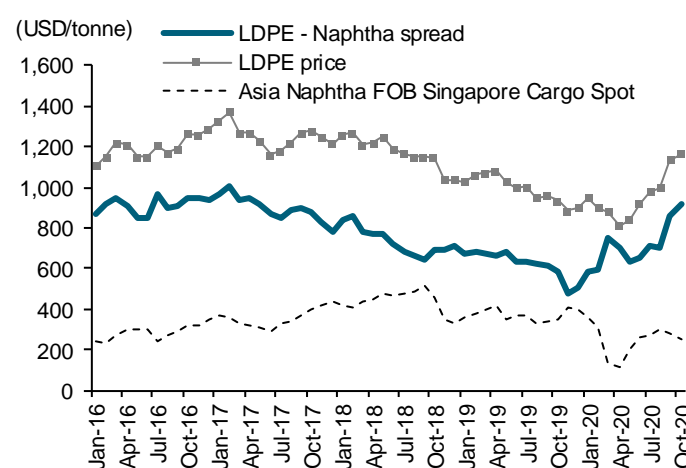
We expect the olefin-naphtha margin to stay healthy in 2021-22, backed the demand recovery that should help offset the negative impact of the new supply influx.

**Exhibit 16: Naphtha spread – HDPE**



Source: Bloomberg

**Exhibit 17: Naphtha spread – LDPE**



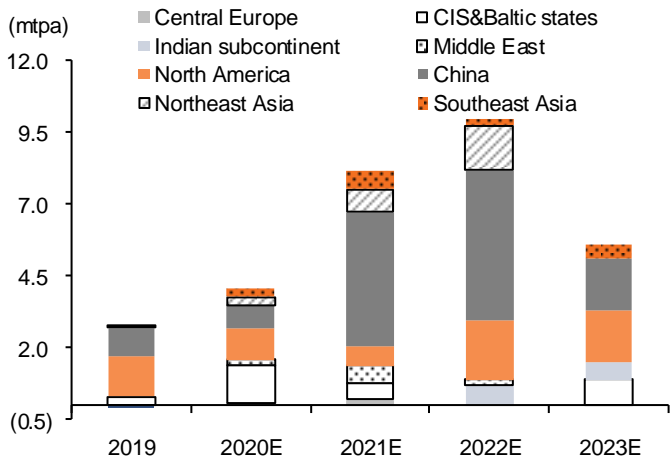
Source: Bloomberg

**PE product chain margins.** Since the beginning of 2020, the PE-naphtha margins have risen sharply from their bottoms in 4Q19, driven by the rising demand for single-use plastics after the COVID-19 outbreak and the online and e-commerce packaging boom. However, we project the PE-naphtha margins to start softening in 2H20 onward, due to the new supply influx.

According to PTTGC's 3Q20 presentation, the global PE demand is projected to grow at 5mtpa in 2021, up from a decline of 0.6mtpa in 2020 due to the COVID-19 impact. While the projected demand growth of 5mtpa y-y is still lower than the new PE supply growth of 7.8mtpa, the demand-supply balance should be much better in 2021 than it has been in 2020, where the demand growth of -0.6mtpa has been much lower than the 7mtpa supply growth.

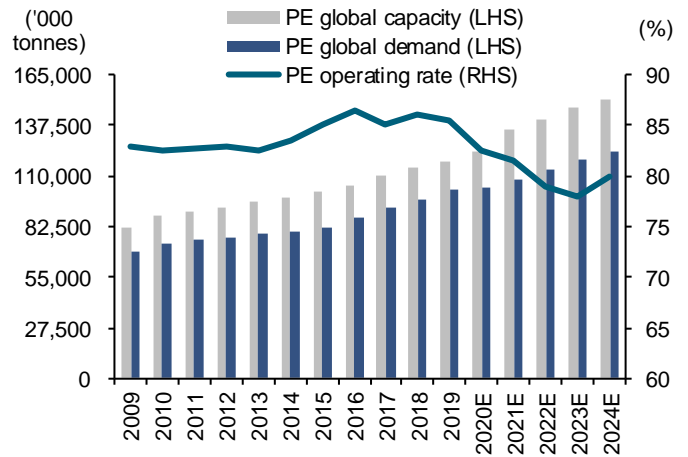


**Exhibit 18: Polyethylene supply addition by region**



Source: Extracted from PTTGC's investor presentation

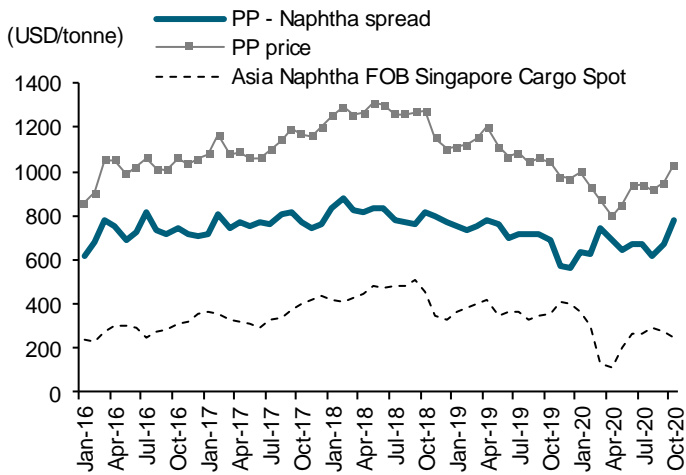
**Exhibit 19: Global PE supply vs demand and operating rate**



Source: Extracted from PTTGC's investor presentation

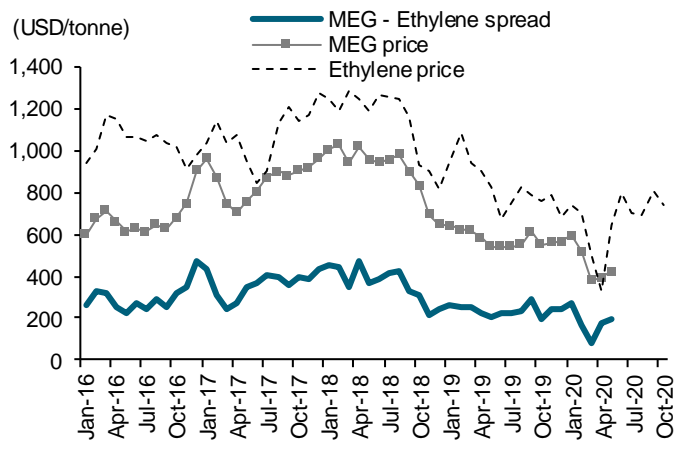
In contrast, the PP-naphtha margin has been much more resilient than the PE-naphtha margins, due to the more limited supply on the market. While the PE-naphtha margins have ranged from USD280-1,000/t during 2016-1H20, the PP-naphtha margin has hovered between USD420/t and USD730/t. We believe the PP-naphtha margin will continue to stay above USD500/t in 2021-22, driven by a limited new supply and an improving demand for automotive and construction materials.

**Exhibit 20: Naphtha spread – PP**



Source: Bloomberg

**Exhibit 21: Ethylene spread – MEG**

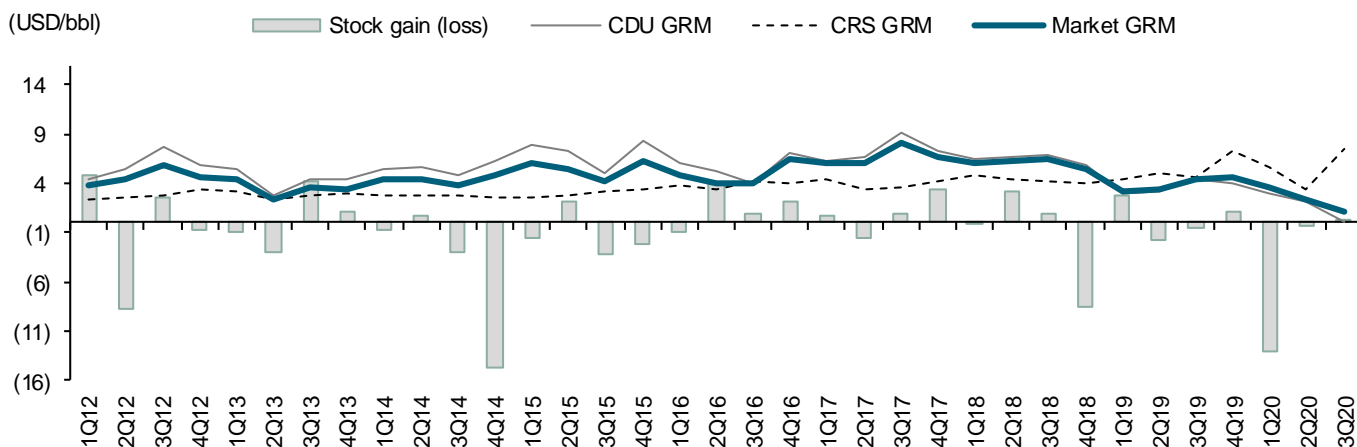


Source: Bloomberg

### Refinery unit could also see a light at the end of the tunnel

Even with different feedstocks for its refineries, PTTGC’s refinery unit continued to suffer in 9M20, due to the industry’s depressed demand and product margins caused by the COVID-19 outbreak. While the market GRM for PTTGC’s 145kbpd refinery crude distillation unit (CDU) plunged due to the weak product margins, the market GRM for its two condensate residual splitters (CRS) remained highly resilient, thanks to the company’s unique condensate feedstock (condensate) and crude (CDU) vs the purely crude feedstock for other refiners.

**Exhibit 22: Quarterly CDU (crude-based refinery) and CRS (condensate-based splitter) GRMs, stock gain (loss), and overall market GRM**



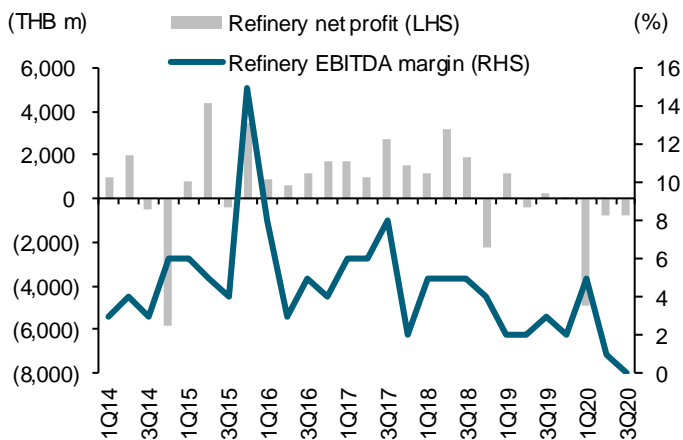
Source: PTTGC

However, PTTGC suffered from large inventory losses in 1Q-3Q20, resulting in a depressed accounting GRM (including the inventory losses) and net losses for its refinery unit in 1Q-3Q20. Compared to other refiners, PTTGC still witnessed much lower net losses from its refinery unit, with net losses of THB5b in 1Q20, THB0.8b in 2Q20, and THB775m in 3Q20.

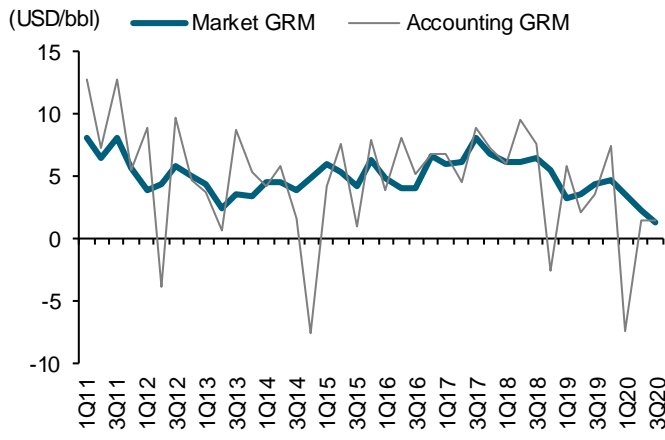
We, however, project that PTTGC’s refinery unit will turn profitable in 4Q20 onward, based on 1) the improving margins of diesel, jet, and gasoline over Dubai; and 2) an expected inventory gain due to the higher oil price.

**Exhibit 23: Quarterly refinery net profit and EBITDA margin**

**Exhibit 24: Quarterly market GRM vs accounting GRM**



Source: PTTGC

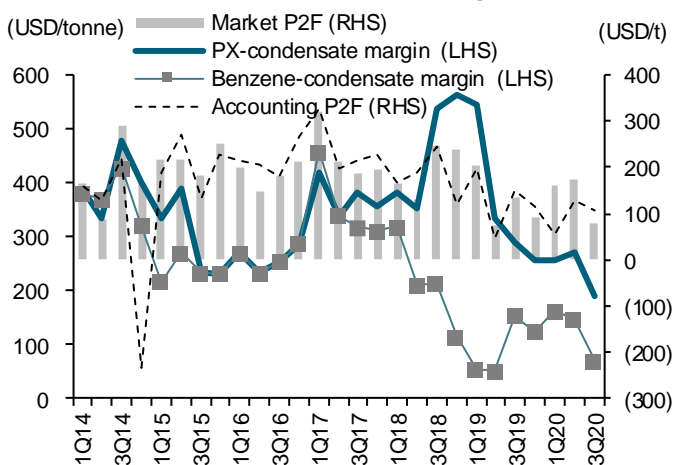


Source: PTTGC

### A dim light at the end of the tunnel for the aromatics unit

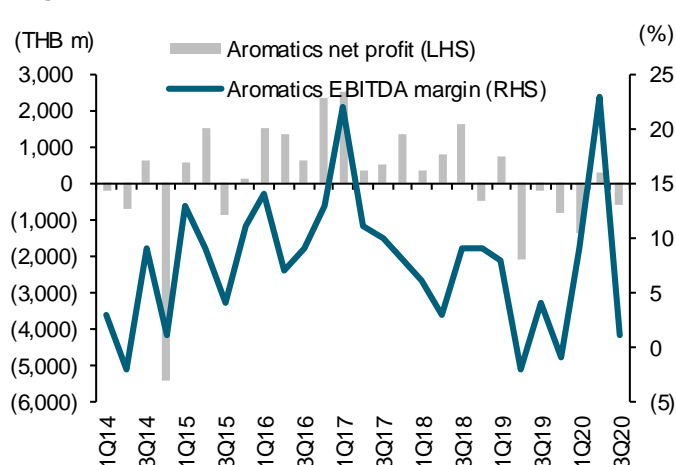
PTTGC's aromatics unit posted a net loss of THB591m in 3Q20, down from a THB308m NP in 2Q20, due to the sharp drops in the PX-condensate and benzene-condensate margins due to weak demand.

**Exhibit 25: Quarterly market and accounting P2F, PX-condensate, and benzene-condensate margins**



Source: PTTGC

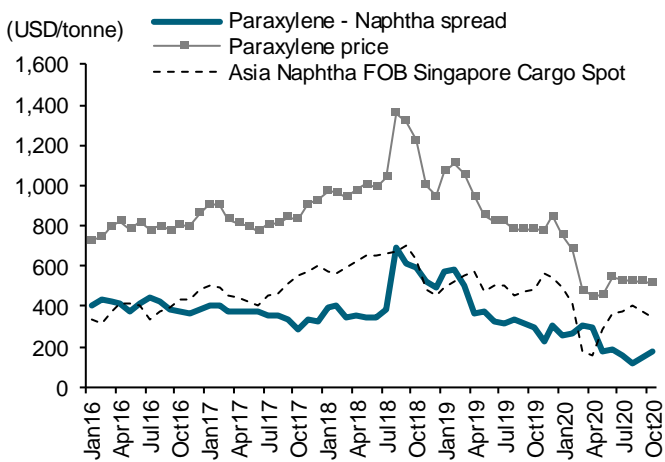
**Exhibit 26: Quarterly aromatics net profit and EBITDA margin**



Source: PTTGC

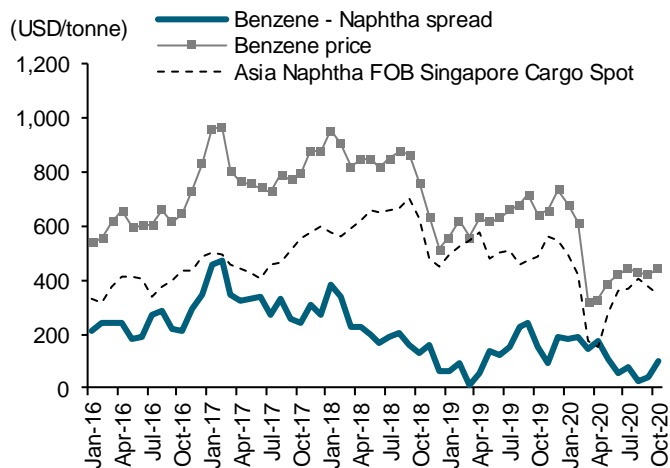
While the PX-condensate margin has collapsed from USD190/t in 3Q20 to USD147/t in Nov-20, the benzene-condensate margin improved from USD71/t in 3Q20 to USD160/t in Nov-20. Hence, we estimate the product-to-feed (P2F) to remain weak in the range of USD70-80/t in 4Q20, potentially resulting in a net loss for the aromatics unit.

**Exhibit 27: Naphtha spread – Paraxylene**



Source: Bloomberg

**Exhibit 28: Naphtha spread – Benzene**



Source: Bloomberg

## New growth projects to enhance competitiveness

Via its JV, GC Polyols, a joint venture company between PTTGC, Sanyo Chemical Industries and Toyota Tsusho Corporation, PTTGC has already completed and started up its 130ktpa polyol plant, comprising a 130ktpa capacity of polyether polyols, 30ktpa of polymer polyols, and 20ktpa of premix polyols.

### Exhibit 29: PTTGC's growth projects

Projects	Products	PTTGC holding (%)	Capacity (ktpa)	Equity capacity (ktpa)	CAPEX (USD m)	Timeline	COD
1 PO/Polyol	PO/Polyol	50	330	165	1,000	FID:2Q17	3Q20
	PO		200	100			
	Polyol		130	65			
2 Olefins Reconfiguration Project (ORP)		100	750	750	985	FID in Jan 18	1Q21E
	Ethylene		500	500			
	Propylene		250	250			
3 US gas cracker		50	1,500	750	10,000	FID in 2021E	2025E
	Ethylene		1,000	500			
	Propylene		500	250			

Sources: PTTGC; FSSIA estimates

The polyols plant will use propylene oxide (PO) and ethylene oxide (EO) as two key feedstocks, produced by PTTGC. We believe this polyols project, along with the upcoming ORP project scheduled to start up in 1Q21 – a delay from 4Q20 – will be key catalysts for PTTGC's NP in 2021-22.

### Assumption revisions and TP increase

We cut our core EPS forecast for 2020 by 52.1% to reflect the larger-than-expected inventory loss and lower-than-expected market GRM, but raise our EPS forecasts for 2021-22 by 1.8-16.1% to reflect our assumption changes for the HDPE, LDPE and LLDPE prices and margins over naphtha. We think the demand recovery for PE products will be more resilient, and the prices of PE products should be driven by the higher oil price that we project to rise from USD40/bbl in 2020 to USD50/bbl in 2021-22.

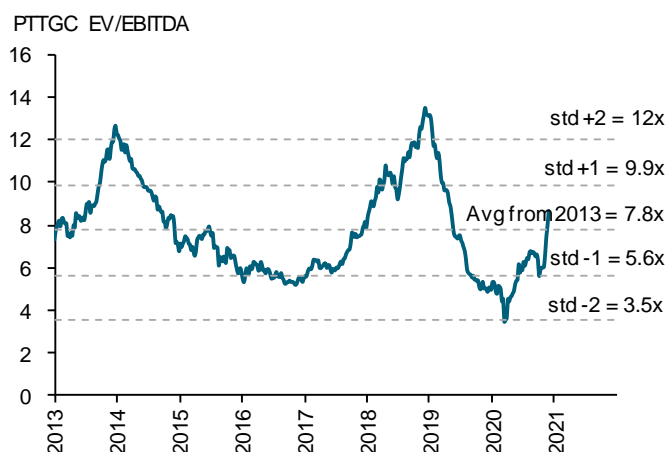
### Exhibit 30: Key changes in assumptions

	Current			Previous			Change (%)		
	2020E	2021E	2022E	2020E	2021E	2022E	2020E	2021E	2022E
Revenue (THB m)	309,756	360,740	372,127	316,852	357,385	364,885	(2.2)	0.9	2.0
Gross profit (THB m)	13,193	30,410	36,287	16,821	25,669	29,887	(21.6)	18.5	21.4
Operating profit (THB m)	(142)	14,810	19,849	3,344	10,587	14,174	(104.2)	39.9	40.0
Core net profit (THB m)	4,602	18,515	24,134	9,606	15,949	23,705	(52.1)	16.1	1.8
Core EPS (THB)	1.0	4.1	5.4	2.1	3.5	5.3	(52.1)	16.1	1.8
<b>Key assumptions</b>									
Olefin utilisation rate (%)	93.0	94.0	95.0	93.0	94.0	95.0	-	-	-
Refinery utilisation rate (%)	85.0	93.0	95.0	93.0	95.0	95.0	(8.6)	(2.1)	-
HDPE-naphtha (USD/t)	470	570	650	470	450	500	-	26.7	30.0
HDPE price (USD/t)	870	1,070	1,150	870	950	1,000	-	12.6	15.0
LDPE-naphtha (USD/t)	570	670	750	570	550	600	-	21.8	25.0
LDPE price (USD/t)	970	1,170	1,250	970	1,050	1,100	-	11.4	13.6
LLDPE-naphtha (USD/t)	520	620	700	520	500	550	-	24.0	27.3
LLDPE price (USD/t)	920	1,120	1,200	920	1,000	1,050	-	12.0	14.3
MEG-naphtha (USD/t)	400	350	400	400	350	400	-	-	-
MEG price (USD/t)	800	850	900	800	850	900	-	-	-
Market GRM (USD/bbl)	1.1	6.0	6.8	3.1	6.0	6.8	(65.6)	0.0	-
Dubai crude oil price (USD/bbl)	40.0	50.0	50.0	40	50	50	-	-	-
Gasoline-Dubai (USD/bbl)	7	12	13	7	12	13	-	-	-
Jet-Dubai (USD/bbl)	1	15	15	6	15	15	(83.3)	-	-
Diesel-Dubai (USD/bbl)	5	11	8	12	11	8	(58.3)	-	-
HSFO-Dubai (USD/bbl)	(2)	(5)	(7)	(5)	(5)	(7)	(60.0)	-	-
PX-naphtha (USD/bbl)	350	382	382	350	382	382	-	-	-

Source: FSSIA estimates

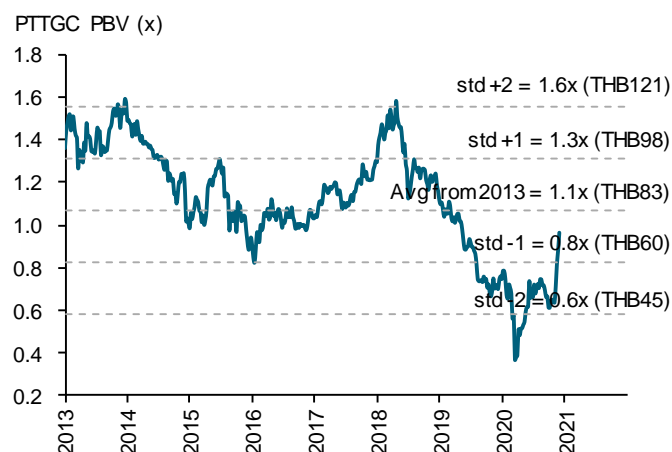
We raise our TP from THB50, based on 8.0x 2020E EV/EBITDA, to THB69, now based on 9.5x 2021E EV/EBITDA, above its eight-year average of 7.8x, to reflect PTTGC's mid-cycle margin outlook for olefins.

Exhibit 31: One-year forward EV/EBITDA band



Sources: Bloomberg; FSSIA estimates

Exhibit 32: One-year forward P/BV band



Sources: Bloomberg; FSSIA estimates

Exhibit 33: Peer comparisons

Company	BBG code	Rec	Share Price	Target price	Upside	Market Cap	3Y EPS CAGR	PE		ROE		PBV		EV/EBITDA	
								20E	21E	20E	21E	20E	21E	20E	21E
			(LCY)	(LCY)	(%)	(USD m)	(%)	(x)	(x)	(%)	(%)	(x)	(x)	(x)	(x)
<b>THAILAND</b>															
Inorama Ventures	IVL TB	BUY	30.25	36.00	19	5,613	54.0	144.0	22.7	0.9	5.6	1.3	1.2	9.0	8.5
IRPC Pcl	IRPC TB	BUY	2.88	4.20	46	1,945	(309.3)	7.6	6.9	9.1	9.5	0.7	0.6	6.3	5.3
PTT Global Chem	PTTGC TB	BUY	59.25	69.00	17	8,785	33.7	58.0	14.4	1.7	7.0	1.0	1.0	15.4	8.4
Siam Cement	SCC TB	BUY	375.00	445.00	19	14,871	3.9	13.6	12.7	11.5	11.7	1.5	1.4	13.4	12.8
Eastern Polymer	EPG TB	BUY	5.95	6.30	6	551	9.5	16.5	18.0	9.6	8.7	1.6	1.6	11.4	11.8
Vinythai Public	VNT TB		24.60	NA	NA	962	(12.5)	13.8	11.9	9.7	10.9	1.3	1.2	6.7	6.0
<b>THAILAND avg</b>						<b>32,725</b>	<b>1.5</b>	<b>39.5</b>	<b>15.2</b>	<b>7.3</b>	<b>8.8</b>	<b>1.3</b>	<b>1.2</b>	<b>11.1</b>	<b>10.0</b>
<b>INDIA</b>															
Reliance Industries	RIL IN	NA	1,952.60	NA	NA	173,787	12.9	28.0	29.7	10.6	8.1	2.9	2.2	16.7	17.6
<b>INDIA avg</b>						<b>173,787</b>	<b>12.9</b>	<b>28.0</b>	<b>29.7</b>	<b>10.6</b>	<b>8.1</b>	<b>2.9</b>	<b>2.2</b>	<b>16.7</b>	<b>17.6</b>
<b>TAIWAN</b>															
Formosa Plastics	1301 TT	NA	87.60	NA	NA	19,358	2.7	30.4	16.8	5.4	9.3	1.7	1.6	24.7	18.6
Nan Ya Plastics	1303 TT	NA	65.80	NA	NA	18,303	14.6	28.0	18.6	5.3	8.2	1.5	1.4	18.9	17.5
Formosa Chem&Fi	1326 TT	NA	79.70	NA	NA	16,282	(3.8)	31.8	21.5	3.9	5.6	1.4	1.3	17.1	16.1
Formosa Petro	6505 TT	NA	95.60	NA	NA	31,641	6.3	148.7	27.0	1.6	10.0	3.0	2.7	54.9	16.6
<b>TAIWAN avg</b>						<b>85,584</b>	<b>5.3</b>	<b>73.9</b>	<b>21.9</b>	<b>3.7</b>	<b>8.6</b>	<b>2.0</b>	<b>1.9</b>	<b>33.2</b>	<b>17.2</b>
<b>SOUTH KOREA</b>															
Hanwha Solutions	009830 KS	NA	49,750.00	NA	NA	7,153	51.7	16.4	12.3	7.8	9.2	1.3	1.2	10.3	9.0
Lotte Chemical	011170 KS	NA	289,000.00	NA	NA	8,917	7.4	37.7	11.4	1.9	6.8	0.7	0.7	8.9	5.1
Lg Chem	051910 KS	NA	816,000.00	NA	NA	51,868	76.0	42.3	29.8	8.0	10.4	3.3	3.0	13.9	11.2
Kumho Petro	011780 KS	NA	141,000.00	NA	NA	3,915	21.5	8.4	7.6	17.6	17.2	1.5	1.3	5.7	5.2
Oci	010060 KS	NA	68,600.00	NA	NA	1,459	(217.1)	na	16.2	(3.3)	3.8	0.6	0.6	49.0	8.8
<b>SOUTH KOREA avg</b>						<b>73,311</b>	<b>56.5</b>	<b>36.6</b>	<b>24.4</b>	<b>7.5</b>	<b>10.1</b>	<b>2.7</b>	<b>2.4</b>	<b>13.2</b>	<b>9.9</b>
<b>MALAYSIA</b>															
Petronas Chem	PCHEM MK	NA	6.90	NA	NA	13,693	4.5	33.2	22.1	5.6	7.9	1.8	1.7	13.1	10.2
Lotte Chemical Titan	TTNP MK	NA	2.47	NA	NA	1,379	(10.9)	50.4	26.6	1.0	1.5	0.5	0.5	2.8	2.6
<b>MALAYSIA avg</b>						<b>15,071</b>	<b>3.1</b>	<b>34.8</b>	<b>22.5</b>	<b>5.2</b>	<b>7.3</b>	<b>1.7</b>	<b>1.6</b>	<b>12.1</b>	<b>9.5</b>
<b>Average (Asia)</b>						<b>380,478</b>	<b>18.2</b>	<b>41.2</b>	<b>25.4</b>	<b>7.9</b>	<b>8.6</b>	<b>2.5</b>	<b>2.1</b>	<b>19.1</b>	<b>15.0</b>
<b>US</b>															
Eastman Chem	EMN US	NA	99.84	NA	NA	13,525	3.3	16.9	14.1	11.8	14.3	2.2	2.1	10.9	9.8
Dupont De Nem	DD US	NA	64.89	NA	NA	47,620	15.3	20.3	18.4	5.3	5.5	1.2	1.1	12.5	11.7
Celanese	CE US	NA	133.01	NA	NA	15,548	3.3	18.8	14.6	28.6	35.3	5.9	5.4	13.8	11.8
Westlake Chem	WLK US	NA	77.82	NA	NA	9,939	(2.8)	39.2	27.1	4.6	5.1	1.6	1.6	10.8	9.3
Ppg Industries	PPG US	NA	146.69	NA	NA	34,649	4.7	26.1	21.8	23.7	25.7	5.9	5.4	16.2	14.1
Alpek Sa De Cv	ALPEKA MM	NA	16.32	NA	NA	1,723	(18.8)	16.6	10.7	3.9	9.3	0.9	0.8	6.1	5.2
<b>Avg (US)</b>						<b>123,004</b>	<b>7.6</b>	<b>22.8</b>	<b>19.0</b>	<b>14.0</b>	<b>15.9</b>	<b>3.3</b>	<b>3.0</b>	<b>13.3</b>	<b>11.9</b>
<b>ME/Europe</b>															
Saudi Basic	SABIC AB	NA	96.80	NA	NA	77,428	8.4	1,052.2	31.4	(0.0)	5.4	1.8	1.8	16.7	10.9
Saudi Kayan	KAYAN AB	NA	12.00	NA	NA	4,799	(194.0)	na	na	(6.4)	(0.9)	1.3	1.3	17.4	12.4
Yanbu National	YANSAB AB	NA	60.10	NA	NA	9,014	10.7	63.1	30.9	3.4	7.9	2.3	2.3	18.5	13.7
Industries Qatar	IQCD QD	NA	10.78	NA	NA	17,556	4.1	35.5	25.4	4.9	6.6	2.0	2.0	29.5	23.1
Basf Se	BAS GR	NA	60.10	NA	NA	65,755	15.0	24.1	17.3	1.9	7.5	1.5	1.5	10.8	8.9
Arkema	AKE FP	NA	95.94	NA	NA	8,770	3.2	19.0	14.8	6.6	8.4	1.4	1.3	8.0	7.2

Lanxess Ag	LXS GR	NA	57.92	NA	NA	6,033	(5.7)	19.1	15.1	7.5	8.4	1.5	1.4	8.7	7.7
Solvay Sa	SOLB BB	NA	95.22	NA	NA	12,009	(0.5)	16.8	15.2	(1.5)	8.1	1.3	1.3	7.6	7.1
<b>Avg (ME/Europe)</b>						<b>201,363</b>	<b>4.3</b>	<b>420.8</b>	<b>23.3</b>	<b>1.5</b>	<b>6.5</b>	<b>1.7</b>	<b>1.6</b>	<b>14.8</b>	<b>11.0</b>
<b>Petrochem under coverage</b>						<b>31,763</b>	<b>1.9</b>	<b>39.1</b>	<b>14.9</b>	<b>7.0</b>	<b>8.5</b>	<b>1.2</b>	<b>1.2</b>	<b>10.9</b>	<b>9.8</b>
<b>Average (all)</b>						<b>704,845</b>	<b>12.4</b>	<b>146.4</b>	<b>23.7</b>	<b>7.2</b>	<b>9.3</b>	<b>2.4</b>	<b>2.1</b>	<b>16.9</b>	<b>13.3</b>

Share prices as of 26 November 2020; Sources: Bloomberg; FSSIA estimates

## Financial Statements

PTT Global Chemical

Profit and Loss (THB m) Year Ending Dec	2018	2019	2020E	2021E	2022E
Revenue	518,655	412,810	309,756	360,740	372,127
Cost of goods sold	(446,971)	(370,369)	(274,067)	(305,587)	(308,849)
<b>Gross profit</b>	<b>71,684</b>	<b>42,441</b>	<b>35,690</b>	<b>55,153</b>	<b>63,278</b>
Other operating income	-	-	-	-	-
Operating costs	(14,854)	(16,469)	(13,335)	(15,599)	(16,438)
<b>Operating EBITDA</b>	<b>56,829</b>	<b>25,972</b>	<b>22,355</b>	<b>39,554</b>	<b>46,840</b>
Depreciation	(19,055)	(20,250)	(22,497)	(24,744)	(26,991)
Goodwill amortisation	0	0	0	0	0
<b>Operating EBIT</b>	<b>37,775</b>	<b>5,722</b>	<b>(142)</b>	<b>14,810</b>	<b>19,849</b>
Net financing costs	(2,003)	(363)	(1,324)	(1,303)	(1,289)
Associates	6,895	4,559	3,210	4,583	5,213
Recurring non operating income	8,012	5,877	6,213	7,798	8,852
Non recurring items	(527)	1,763	(8,562)	0	0
<b>Profit before tax</b>	<b>43,257</b>	<b>12,999</b>	<b>(3,815)</b>	<b>21,305</b>	<b>27,412</b>
Tax	(2,986)	(649)	225	(2,419)	(2,907)
<b>Profit after tax</b>	<b>40,271</b>	<b>12,349</b>	<b>(3,589)</b>	<b>18,886</b>	<b>24,505</b>
Minority interests	(201)	(667)	(371)	(371)	(371)
Preferred dividends	0	0	0	0	0
Other items	-	-	-	-	-
<b>Reported net profit</b>	<b>40,069</b>	<b>11,682</b>	<b>(3,960)</b>	<b>18,515</b>	<b>24,134</b>
<b>Non recurring items &amp; goodwill (net)</b>	<b>527</b>	<b>(1,763)</b>	<b>8,562</b>	<b>0</b>	<b>0</b>
<b>Recurring net profit</b>	<b>40,596</b>	<b>9,919</b>	<b>4,602</b>	<b>18,515</b>	<b>24,134</b>
<b>Per share (THB)</b>					
Recurring EPS *	9.01	2.20	1.02	4.11	5.35
Reported EPS	8.89	2.59	(0.88)	4.11	5.35
DPS	6.43	7.77	4.24	3.58	6.97
Diluted shares (used to calculate per share data)	4,508	4,508	4,508	4,508	4,508
<b>Growth</b>					
Revenue (%)	17.9	(20.4)	(25.0)	16.5	3.2
Operating EBITDA (%)	(9.7)	(54.3)	(13.9)	76.9	18.4
Operating EBIT (%)	(13.1)	(84.9)	nm	nm	34.0
Recurring EPS (%)	(2.9)	(75.6)	(53.6)	302.4	30.3
Reported EPS (%)	2.0	(70.8)	nm	nm	30.3
<b>Operating performance</b>					
Gross margin inc depreciation (%)	10.1	5.4	4.3	8.4	9.8
Gross margin of key business (%)	10.1	5.4	4.3	8.4	9.8
Operating EBITDA margin (%)	11.0	6.3	7.2	11.0	12.6
Operating EBIT margin (%)	7.3	1.4	0.0	4.1	5.3
Net margin (%)	7.8	2.4	1.5	5.1	6.5
Effective tax rate (%)	6.9	5.0	5.9	11.4	10.6
Dividend payout on recurring profit (%)	71.4	353.0	415.8	87.1	130.2
Interest cover (X)	22.9	31.9	4.6	17.3	22.3
Inventory days	31.5	37.3	39.8	30.4	32.9
Debtor days	31.8	35.3	36.2	29.8	31.6
Creditor days	38.8	44.6	46.7	38.9	42.1
Operating ROIC (%)	13.5	2.1	0.0	(0.6)	(0.7)
ROIC (%)	11.7	2.8	1.4	(0.6)	(0.7)
ROE (%)	14.2	3.4	1.7	7.0	9.2
ROA (%)	9.4	2.4	1.4	3.9	4.8

\* Pre-exceptional, pre-goodwill and fully diluted

Revenue By Division (THB m)	2018	2019	2020E	2021E	2022E
Refinery and shared facilities	227,034	163,414	117,119	149,156	159,156
Aromatics	92,601	68,525	59,125	79,125	79,125
Olefins and derivatives	135,126	107,407	90,258	81,475	82,861
Green Chemicals	15,233	19,852	13,652	18,652	19,652
Performance materials and chemical	46,751	40,152	28,452	25,462	29,863
Service and others	1,910	13,460	1,150	6,870	1,469

Sources: PTT Global Chemical; FSSIA estimates

## Financial Statements

PTT Global Chemical

Cash Flow (THB m) Year Ending Dec	2018	2019	2020E	2021E	2022E
Recurring net profit	40,596	9,919	4,602	18,515	24,134
Depreciation	19,055	20,250	22,497	24,744	26,991
Associates & minorities	(6,895)	(6,000)	(3,210)	(4,583)	(5,213)
Other non-cash items	3,323	(1,931)	(1,931)	(1,931)	(1,931)
Change in working capital	3,355	7,728	7,245	(3,030)	(389)
<b>Cash flow from operations</b>	<b>59,435</b>	<b>29,966</b>	<b>29,202</b>	<b>33,715</b>	<b>43,592</b>
Capex - maintenance	-	-	-	-	-
Capex - new investment	(48,000)	(40,000)	(40,000)	(40,000)	(40,000)
Net acquisitions & disposals	(1,000)	(1,000)	(1,000)	(1,000)	(1,000)
Other investments (net)	16,158	(780)	(780)	(780)	(780)
<b>Cash flow from investing</b>	<b>(32,842)</b>	<b>(41,780)</b>	<b>(41,780)</b>	<b>(41,780)</b>	<b>(41,780)</b>
Dividends paid	(28,985)	(35,011)	(19,131)	(16,131)	(31,427)
Equity finance	0	0	0	0	0
Debt finance	(8,490)	(8,488)	(5,494)	(5,493)	(5,492)
Other financing cash flows	9,395	27,313	39,964	37,039	37,039
<b>Cash flow from Financing</b>	<b>(28,080)</b>	<b>(16,187)</b>	<b>15,338</b>	<b>15,415</b>	<b>119</b>
Non-recurring cash flows	-	-	-	-	-
Other adjustments	0	0	0	0	0
<b>Net other adjustments</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Movement in cash</b>	<b>(1,487)</b>	<b>(28,001)</b>	<b>2,761</b>	<b>7,349</b>	<b>1,931</b>
Free cash flow to firm (FCFF)	30,186.72	(8,695.04)	(9,683.89)	(5,190.96)	4,672.63
Free cash flow to equity (FCFE)	27,498.02	7,010.26	21,892.08	23,480.29	33,358.35
<b>Per share (THB)</b>					
FCFF per share	6.69	(1.93)	(2.15)	(1.15)	1.04
FCFE per share	6.10	1.55	4.86	5.21	7.40
Recurring cash flow per share	12.44	4.93	4.87	8.15	9.76
<b>Balance Sheet (THB m) Year Ending Dec</b>					
Tangible fixed asset (gross)	340,497	380,497	420,497	460,497	500,497
Less: Accumulated depreciation	(134,496)	(154,746)	(177,243)	(201,987)	(228,977)
<b>Tangible fixed assets (Net)</b>	<b>206,001</b>	<b>225,751</b>	<b>243,254</b>	<b>258,511</b>	<b>271,520</b>
<b>Intangible fixed assets (Net)</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Long-term financial assets	-	-	-	-	-
Invest. In associates & subsidiaries	37,790	44,790	49,001	54,583	60,796
Cash & equivalents	53,563	25,562	28,323	35,673	37,604
A/C receivable	45,616	34,157	27,243	31,727	32,729
Inventories	39,366	36,252	23,510	27,380	28,244
Other current assets	5,767	8,525	8,523	8,523	8,523
<b>Current assets</b>	<b>144,311</b>	<b>104,496</b>	<b>87,600</b>	<b>103,303</b>	<b>107,099</b>
Other assets	81,153	77,476	77,476	77,476	77,476
<b>Total assets</b>	<b>469,255</b>	<b>452,514</b>	<b>457,332</b>	<b>493,873</b>	<b>516,892</b>
Common equity	296,046	285,830	262,738	265,123	257,829
Minorities etc.	7,436	7,765	4,049	4,419	4,790
<b>Total Shareholders' equity</b>	<b>303,482</b>	<b>293,595</b>	<b>266,788</b>	<b>269,542</b>	<b>262,619</b>
Long term debt	83,648	96,918	91,424	85,931	80,439
Other long-term liabilities	8,267	8,968	56,098	90,426	124,753
<b>Long-term liabilities</b>	<b>91,915</b>	<b>105,886</b>	<b>147,522</b>	<b>176,356</b>	<b>205,192</b>
A/C payable	50,384	40,102	30,091	35,044	36,150
Short term debt	10,390	9,068	9,068	9,068	9,068
Other current liabilities	13,084	3,864	3,864	3,864	3,864
<b>Current liabilities</b>	<b>73,858</b>	<b>53,033</b>	<b>43,022</b>	<b>47,975</b>	<b>49,081</b>
<b>Total liabilities and shareholders' equity</b>	<b>469,255</b>	<b>452,514</b>	<b>457,332</b>	<b>493,873</b>	<b>516,892</b>
Net working capital	27,280	34,969	25,322	28,723	29,482
Invested capital	352,224	382,987	395,054	419,293	439,275
* Includes convertibles and preferred stock which is being treated as debt					
<b>Per share (THB)</b>					
Book value per share	65.67	63.41	58.28	58.81	57.19
Tangible book value per share	65.67	63.41	58.28	58.81	57.19
<b>Financial strength</b>					
Net debt/Equity (%)	13.3	27.4	27.1	22.0	19.8
Net debt/total assets (%)	8.6	17.8	15.8	12.0	10.0
Current ratio (x)	2.0	2.0	2.0	2.2	2.2
CF interest cover (x)	38.7	130.5	47.8	49.7	57.9
<b>Valuation</b>					
<b>Recurring P/E (x) *</b>	<b>6.6</b>	<b>26.9</b>	<b>58.0</b>	<b>14.4</b>	<b>11.1</b>
<b>Recurring P/E @ target price (x) *</b>	<b>7.7</b>	<b>31.4</b>	<b>67.6</b>	<b>16.8</b>	<b>12.9</b>
Reported P/E (x)	6.7	22.9	(67.4)	14.4	11.1
Dividend yield (%)	10.9	13.1	7.2	6.0	11.8
Price/book (x)	0.9	0.9	1.0	1.0	1.0
Price/tangible book (x)	0.9	0.9	1.0	1.0	1.0
EV/EBITDA (x) **	5.5	13.7	15.4	8.4	6.9
EV/EBITDA @ target price (x) **	6.3	15.4	17.3	9.5	7.9
EV/invested capital (x)	0.9	0.9	0.9	0.8	0.7
* Pre-exceptional & pre-goodwill are fully diluted ** EBITDA includes associate income and recurring non operating income					

Sources: PTT Global Chemical; FSSIA estimates



## Corporate Governance report of Thai listed companies 2019

EXCELLENT LEVEL										
AAV	ADVANC	AIRA	AKP	AKR	AMA	AMATA	AMATAV	ANAN	AOT	AP
ARROW	BAFS	BANPU	BAY	BCP	BCPG	BOL	BRR	BTS	BTW	BWG
CFRESH	CHEWA	CHO	CK	CKP	CM	CNT	COL	COMAN	CPALL	CPF
CPI	CPN	CSS	DELTA	DEMCO	DRT	DTAC	DTC	EA	EASTW	ECF
EGCO	GBX	GC	GCAP	GEL	GGP	GGC	GOLD	GPSC	GRAMMY	GUNKUL
HANA	HARN	HMPRO	ICC	ICHI	III	ILINK	INTUCH	IRPC	IVL	JKN
JSP	K	KBANK	KCE	KKP	KSL	KTB	KTC	KTIS	LH	LHFG
LIT	LPN	MAKRO	MALEE	MBK	MBKET	MC	MCOT	MFEC	MINT	MONO*
MTC	NCH	NCL	NKI	NSI	NVD	NYT	OISHI	OTO	PAP	PCSGH
PDJ	PG	PHOL	PJW	PLANB	PLANET	PORT	PPS	PR9	PREB	PRG
PRM	PSH	PSL	PTG	PTT	PTTEP	PTTGC	PYLON	Q-CON	QH	QTC
RATCH	ROBINS**	RS	S	S & J	SABINA	SAMART	SAMTEL	SAT	SC	SCB
SCC	SCCC	SCN	SDC	SEAFCO	SEAOIL	SE-ED	SELIC	SENA	SIS	SITHAI
SNC	SORKON	SPALI	SPI	SPRC	SSSC	STA	STEC	SVI	SYNTEC	TASCO
TCAP	THAI	THANA	THANI	THCOM	THIP	THREL	TIP	TISCO	TK	TKT
TMB	TMILL	TNDT	TOA	TOP	TRC	TRU	TRUE	TSC	TSR	TSTH
TTA	TTCL	TTW	TU	TVD	TVO	U	UAC	UV	VGI	VIH
WACOAL	WAVE	WHA	WHAUP	WICE	WINNER					
VERY GOOD LEVEL										
2S	ABM	ADB	AF	AGE	AH	AHC	AIT	ALLA	ALT	AMANA
AMARIN	APCO	APCS	AQUA	ARIP	ASAP	ASIA	ASIAN	ASIMAR	ASK	ASN
ASP	ATP30	AUCT	AYUD	B	BA	BBL	BDMS	BEC	BEM	BFIT
BGC	BGRIM	BIZ	BJC	BJCHI	BLA	BPP	BROOK	CBG	CEN	CENDEL
CGH	CHG	CHOTI	CHOW	CI	CIMBT	CNS	COLOR	COM7	COTTO	CRD
CSC	CSP	DCC	DCON	DDD	DOD	EASON	ECL	EE	EPG	ERW
ESTAR	ETE	FLOYD	FN	FNS	FORTH	FPI	FPT	FSMART	FSS	FVC
GENCO	GJS	GL	GLOBAL	GLOW**	GULF	HPT	HTC	HYDRO	ICN	IFS
INET	INSURE	IRC	IRCP	IT	ITD***	ITEL	J	JAS*	JCK	JCKH
JMART	JMT	JWD	KBS	KCAR	KGI	KIAT	KOOL	KWC	KWM	L&E
LALIN	LANNA	LDC	LHK	LOXLEY	LRH	LST	M	MACO	MAJOR	MBAX
MEGA	METCO	MFC	MK	MODERN	MOONG	MPG	MSC	MTI	NEP	NETBAY
NEX	NINE	NOBLE	NOK	NTV	NWR	OCC	OGC	ORI	OSP	PATO
PB	PDG	PDI	PL	PLAT	PNR	PPP	PRECHA	PRIN	PRINC	PSTC
PT	QLT	RCL	RICHY	RML	RWI	S11	SAAM	SALEE	SAMCO	SANKO
SAPPE	SAWAD	SCG	SCI	SCP	SE	SFP	SIAM	SINGER	SIRI	SKE
SKR	SKY	SMIT	SMK	SMP	SMT	SNP	SONIC	SPA	SPC	SPCG
SPVI	SR	SRICHA	SSC	SSF	SST	STANLY	STPI	SUC	SUN	SUSCO
SUTHA	SWC	SYMC	SYNEX	T	TACC	TAE	TAKUNI	TBSP	TCC	TCMC
TEAM	TEAMG	TFG	TFMAMA	THG	THRE	TIPCO	TITLE	TIW	TKN	TKS
TM	TMC	TMD	TMI	TMT	TNITY	TNL	TNP	TNR	TOG	TPA
TPAC	TPBI	TPCORP	TPOLY	TRITN	TRT	TSE	TSTE	TVI	TVT	TWP
TWPC	UBIS	UEC	UMI	UOBKH	UP	UPF	UPOIC	UT	UWC	VNT
WIIK	XO	YUASA	ZEN	ZMICO						
GOOD LEVEL										
A	ABICO	ACAP***	AEC	AEONTS	AJ	ALUCON	AMC	APURE	AS	ASEFA
AU	B52	BCH	BEAUTY	BGT	BH	BIG	BLAND	BM	BR	BROCK
BSBM	BSM	BTNC	CCET	CCP	CGD	CHARAN	CHAYO	CITY	CMAN	CMC
CMO	CMR	CPL	CPT	CSR	CTW	CWT	D	DIMET	EKH	EMC
EPCO	ESSO	FE	FTE	GIFT	GLAND	GLOCON	GPI	GREEN	GTB	GYT
HTECH	HUMAN	IHL	INGRS	INOX	JTS	JUBILE	KASET	KCM	KKC	KWG
KYE	LEE	LPH	MATCH	MATI	M-CHAI	MCS	MDX	META	MGT	MJD
MM	MVP	NC	NDR	NER	NNCL	NPK	NUSA	OCEAN	PAF	PF
PICO	PIMO	PK	PLE	PMTA	POST	PPM	PROUD	PTL	RCI	RJH
ROJNA	RPC	RPH	SF	SGF	SGP	SKN	SLP	SMART	SOLAR	SPG
SQ	SSP	STI	SUPER	SVOA	TCCC	THE	THMUI	TIC	TIGER	TNH
TOPP	TPCH	TPIPP	TPLAS	TQM	TTI	TYCN	UTP	VCOM	VIBHA	VPO
WIN	WORK	WP	WPH	ZIGA						
Score Range	Number of Logo					Description				
90-100						Excellent				
80-89						Very Good				
70-79						Good				
60-69						Satisfactory				
50-59						Pass				
Less than 50	No logo given					-				

**Disclaimer:**

The disclosure of the survey results of the Thai Institute of Directors Association ("IOD") regarding corporate governance is made pursuant to the policy of the Office of the Securities and Exchange Commission. The survey of the IOD is based on the information of a company listed on the Stock Exchange of Thailand and the Market for Alternative Investment disclosed to the public and able to be accessed by a general public investor. The result, therefore, is from the perspective of a third party. It is not an evaluation of operation and is not based on inside information.

The survey result is as of the date appearing in the Corporate Governance Report of Thai Listed Companies. As a result, the survey results may be changed after that date. FSS International Investment Advisory Company Limited does not confirm nor certify the accuracy of such survey results.

\* CGR scoring should be considered with news regarding wrong doing of the company or director or executive of the company such unfair practice on securities trading, fraud, and corruption SEC imposed a civil sanction against insider trading of director and executive; \*\* delisted

Source: Thai Institute of Directors Association (IOD); FSSIA's compilation

## Anti-corruption Progress Indicator

CERTIFIED										
ADVANC	AIE	AKP	AMANAHA	AP	APCS	AQUA	ARROW	ASK	ASP	AYUD
BAFS	BANPU	BAY	BBL	BCH	BCP	BCPG	BGRIM	BJCHI	BKI	BLA
BROOK	BRR	BSBM	BTS	BWG	CEN	CENTEL	CFRESH	CGH	CHEWA	CIG
CIMBT	CM	COM7	CPALL	CPF	CPI	CPN	CSC	DCC	DEMCO	DIMET
DRT	DTAC	DTC	EASTW	ECL	EGCO	FE	FNS	FSS	GBX	GC
GCAP	GEL	GFPT	GGC	GJS	GOLD	GPSC	GSTEEL	GUNKUL	HANA	HARN
HMPRO	HTC	ICC	IFS	INET	INSURE	INTUCH	IRPC	IVL	K	KASET
KBANK	KBS	KCAR	KCE	KGI	KKP	KSL	KTB	KTC	KWC	L&E
LANNA	LHK	LPN	LRH	M	MAKRO	MALEE	MBAX	MBK	MBKET	MC
MCOT	MFC	MINT	MONO	MOONG	MSC	MTI	NBC	NINE	NKI	NMG
NNCL	NSI	OCC	OCEAN	OGC	PAP	PATO	PB	PCSGH	PDG	PDI
PDJ	PE	PG	PHOL	PL	PLANB	PLANET	PLAT	PM	PPP	PPS
PREB	PRG	PRINC	PSH	PSTC	PT	PTG	PTT	PTTEP	PTTGC	PYLON
Q-CON	QH	QLT	QTC	RATCH	RML	S & J	SABINA	SAT	SC	SCB
SCC	SCCC	SCG	SCN	SE-ED	SELIC	SENA	SGP	SIRI	SIS	SITHAI
SMIT	SMK	SMPC	SNC	SNP	SORKON	SPACK	SPC	SPI	SPRC	SRICHA
SSF	SSI	SSSC	SST	STA	SUSCO	SVI	SYNTEC	TASCO	TCAP	TFG
TFI	TFMAMA	THANI	THCOM	THIP	THRE	THREL	TIP	TIPCO	TISCO	TKT
TMB	TMD	TMILL	TMT	TNITY	TNL	TNP	TNR	TOG	TOP	TPA
TPCORP	TRU	TRUE	TSC	TSTH	TTCL	TU	TVD	TVI	TWPC	U
UBIS	UEC	UKEM	UOBKH	VGI	VIH	VNT	WACOAL	WHA	WICE	WIIK
DECLARED										
2S	ABICO	AF	AI	AIRA	ALT	AMA	AMARIN	AMATA	ANAN	B
BM	BPP	BUI	CHG	CHO	CHOTI	CHOW	CI	CMC	COL	DDD
DELTA	EFORL	EPCO	ESTAR	ETE	FPI	FTE	ICHI	INOX	IRC	ITEL
JAS	JSP	JTS	KWG	LDC	LIT	META	MFEC	MPG	NEP	NOK
NWR	ORI	PRM	PSL	ROJNA	RWI	SAAM	SAPPE	SCI	SEOIL	SHANG
SKR	SPALI	STANLY	SYNEX	TAE	TAKUNI	TMC	TOPP	TPP	TRITN	TVO
UV	UWC	WHAUP	XO	YUASA	ZEN					

Level	
Certified	This level indicates practical participation with thoroughly examination in relation to the recommended procedures from the audit committee or the SEC's certified auditor, being a certified member of Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) or already passed examination to ensure independence from external parties.
Declared	This level indicates determination to participate in the Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC)

### Disclaimer:

The disclosure of the Anti-Corruption Progress Indicators of a listed company on the Stock Exchange of Thailand, which is assessed by ThaiPat Institute, is made in order to comply with the policy and sustainable development plan for the listed companies of the Office of the Securities and Exchange Commission. ThaiPat Institute made this assessment based on the information received from the listed company, as stipulated in the form for the assessment of Anti-corruption which refers to the Annual Registration Statement (Form 56-1), Annual Report (Form 56-2), or other relevant documents or reports of such listed company. The assessment result is therefore made from the perspective of ThaiPat Institute that is a third party. It is not an assessment of operation and is not based on any inside information. Since this assessment is only the assessment result as of the date appearing in the assessment result, it may be changed after that date or when there is any change to the relevant information. Nevertheless, FSS International Investment Advisory Company Limited does not confirm, verify, or certify the accuracy and completeness of the assessment results.

Note: Companies participating in Thailand's Private Sector Collective Action Coalition Against Corruption programme (Thai CAC) under Thai Institute of Directors (as of June 24, 2019) are categorised into: 1) companies that have declared their intention to join CAC, and; 2) companies certified by CAC.

Source: The Securities and Exchange Commission, Thailand; \* FSSIA's compilation

**GENERAL DISCLAIMER**

**ANALYST(S) CERTIFICATION**

Suwat Sinsadok FSS International Investment Advisory Securities Co., Ltd

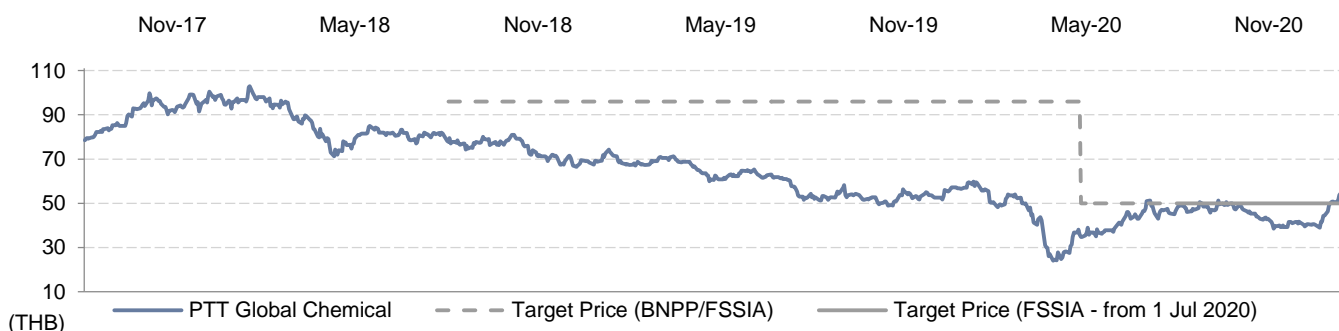
The individual(s) identified above certify(ies) that (i) all views expressed in this report accurately reflect the personal view of the analyst(s) with regard to any and all of the subject securities, companies or issuers mentioned in this report; and (ii) no part of the compensation of the analyst(s) was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed herein.

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**History of change in investment rating and/or target price**

**PTT Global Chemical (PTTGC TB)**



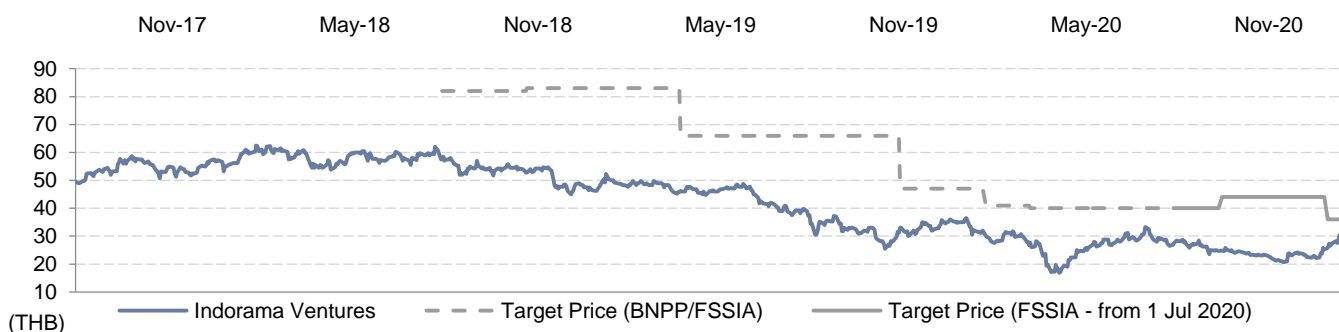
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
09-Oct-2018	BUY	96.00	09-Apr-2020	BUY	50.00	-	-	-

Suwat Sinsadok Started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

**Indorama Ventures (IVL TB)**



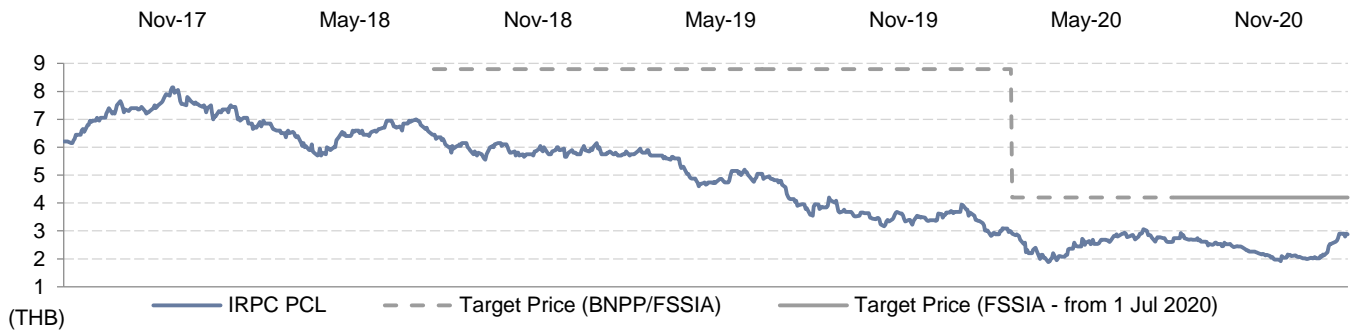
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
09-Oct-2018	BUY	82.00	07-Nov-2019	BUY	47.00	09-Jun-2020	BUY	40.00
21-Dec-2018	BUY	83.00	20-Jan-2020	BUY	41.00	07-Aug-2020	BUY	44.00
02-May-2019	BUY	66.00	27-Feb-2020	BUY	40.00	06-Nov-2020	BUY	36.00

Suwat Sinsadok Started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

**IRPC PCL (IRPC TB)**



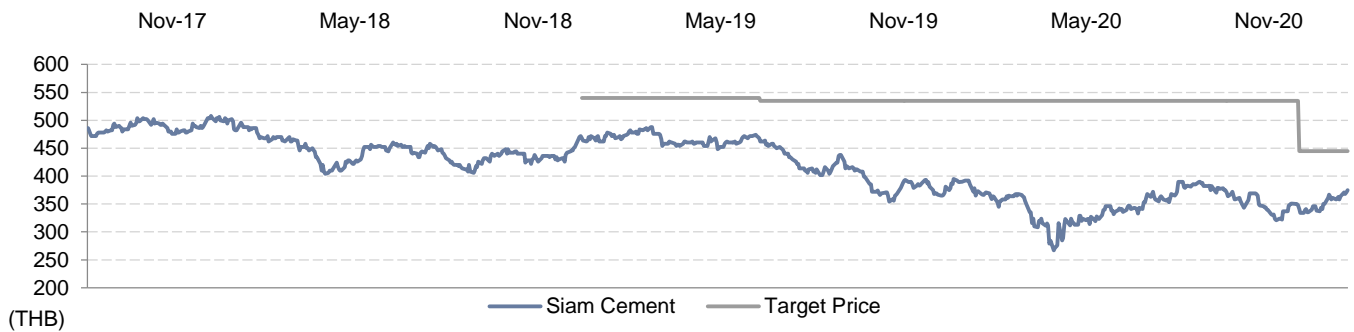
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
09-Oct-2018	BUY	8.80	13-Feb-2019	BUY	8.80	14-Feb-2020	BUY	4.20

Suwat Sinsadok Started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

**Siam Cement (SCC TB)**



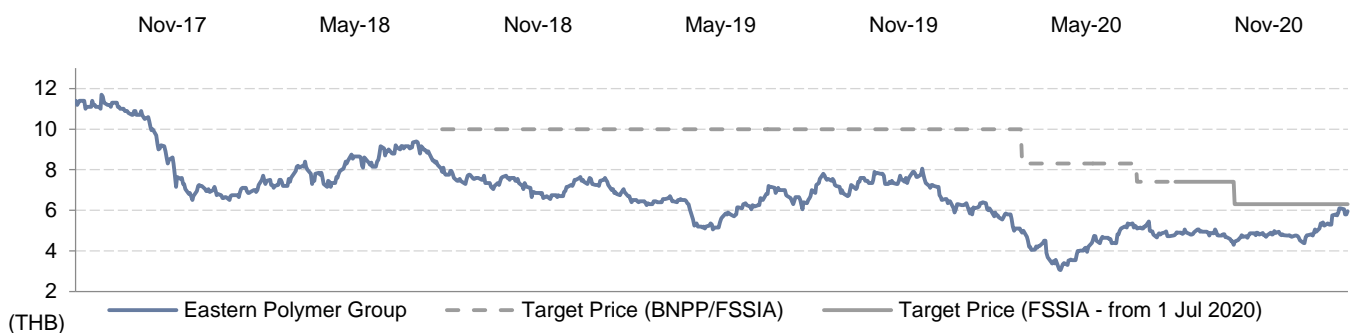
Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
31-Jan-2019	BUY	540.00	02-Apr-2020	BUY	535.00	-	-	-
05-Jul-2019	BUY	535.00	14-Oct-2020	BUY	445.00	-	-	-

Suwat Sinsadok Started covering this stock from 14-Oct-2020

Price and TP are in local currency

Source: FSSIA estimates

**Eastern Polymer Group (EPG TB)**



Date	Rating	Target price	Date	Rating	Target price	Date	Rating	Target price
09-Oct-2018	BUY	10.00	29-May-2020	BUY	7.40	20-Aug-2020	BUY	6.30
20-Feb-2020	BUY	8.30	29-May-2020	BUY	7.40	-	-	-

Suwat Sinsadok Started covering this stock from 09-Oct-2018

Price and TP are in local currency

Source: FSSIA estimates

Company	Ticker	Price	Rating	Valuation & Risks
PTT Global Chemical	PTTGC TB	THB 59.25	BUY	The key downside risks to our EV/EBITDA-based TP are the weaker-than-expected HDPE price and HDPE-naphtha margin.
Indorama Ventures	IVL TB	THB 30.25	BUY	The key downside risks to our EV/EBITDA-based TP are weaker-than-expected margins for PX-PTA and PET-PTA, lower demand for polyester, and delays in IVL's projects.
IRPC PCL	IRPC TB	THB 2.88	BUY	Key risks to our positive view and EV/EBITDA-based target price are weaker-than-expected oil product demand growth and lower-than-expected PP-naphtha and SM-benzene margins.
Siam Cement	SCC TB	THB 375.00	BUY	Downside risks to our call include 1) a lower-than-expected demand for chemicals, CBM, and packaging; 2) rising coal costs for its cement and packaging units; and 3) weaker demand from the automobile industry that could erode the demand for SCC's chemical unit and its dividend contributions.
Eastern Polymer Group	EPG TB	THB 5.95	BUY	Downside risks to our EV/EBITDA-based target price include 1) a sharp rise in feedstock prices, driven mostly by a higher oil price; and 2) lower-than-expected demand for plastics used for insulators and the automobile and packaging industries.

Source: FSSIA estimates

### Additional Disclosures

Target price history, stock price charts, valuation and risk details, and equity rating histories applicable to each company rated in this report is available in our most recently published reports. You can contact the analyst named on the front of this note or your representative at Finansia Syrus Securities Public Company Limited

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All share prices are as at market close on 26-Nov-2020 unless otherwise stated.

## RECOMMENDATION STRUCTURE

### Stock ratings

Stock ratings are based on absolute upside or downside, which we define as (target price\* - current price) / current price.

BUY (B). The upside is 10% or more.

HOLD (H). The upside or downside is less than 10%.

REDUCE (R). The downside is 10% or more.

Unless otherwise specified, these recommendations are set with a 12-month horizon. Thus, it is possible that future price volatility may cause a temporary mismatch between upside/downside for a stock based on market price and the formal recommendation.

\* In most cases, the target price will equal the analyst's assessment of the current fair value of the stock. However, if the analyst doesn't think the market will reassess the stock over the specified time horizon due to a lack of events or catalysts, then the target price may differ from fair value. In most cases, therefore, our recommendation is an assessment of the mismatch between current market price and our assessment of current fair value.

### Industry Recommendations

**Overweight.** The analyst expects the fundamental conditions of the sector to be positive over the next 12 months.

**Neutral.** The analyst expects the fundamental conditions of the sector to be maintained over the next 12 months.

**Underweight.** The analyst expects the fundamental conditions of the sector to be negative over the next 12 months.

### Country (Strategy) Recommendations

**Overweight (O).** Over the next 12 months, the analyst expects the market to score positively on two or more of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Neutral (N).** Over the next 12 months, the analyst expects the market to score positively on one of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.

**Underweight (U).** Over the next 12 months, the analyst does not expect the market to score positively on any of the criteria used to determine market recommendations: index returns relative to the regional benchmark, index sharpe ratio relative to the regional benchmark and index returns relative to the market cost of equity.