



OUTLOOK 2021

VOLUME 04

CONTRAST IMPACTS OF OIL PRICE MOVEMENT

Oil & Gas Industry
Plastic Industry

TABLE OF CONTENTS

A. HIGHLIGHTS OF OIL PRICE MOVEMENT	4
I. OIL PRICE MOVEMENT IN 2020 – Substantial Fluctuation.....	4
II. 2021 Outlook – Crude oil prices are forecasted to increase 28% yoy in 2021.....	6
III. VIETNAM PETROLEUM INDUSTRY VALUE CHAIN	7
B. OIL AND GAS INDUSTRY – POSITIVE OUTLOOK SUPPORTED BY OIL PRICE RECOVERY ..	8
I. INDUSTRY CHARACTERISTICS – Business models differ among companies.....	9
II. INDUSTRY HIGHLIGHTS IN 2020 – Oil price fluctuation negatively affected the industry .	10
1. Service providers: Stable performance in 2020	10
2. Refineries – Fuel product price fell more significantly than crude oil price	11
3. Distributors – Different business models and policies make performance of distributors diverge	12
III. INDUSTRY OUTLOOK IN 2021 – Positive outlook supported by oil price recovery	14
1. Service providers: Difficulty in finding new contracts	14
2. Refineries: Performance is expected to improve due to higher oil price and fuel demand	14
3. Distributors: Higher demand is expected to boost performance of fuel distributors	14
C. PLASTIC INDUSTRY – MATERIAL PRICES ARE EXPECTED TO REMAIN HIGH IN SHORT TERM	17
I. INDUSTRY HIGHLIGHTS IN 2020 – Plastic converters benefited form lower material prices	18
1. Material prices plummeted in the first half of the year then recovered quickly in the second half.....	18
2. A slowdown in plastic production and consumption	20
3. Plastic converters performance in 2020 – Gross margin is improved thanks to low material prices.....	22
II. INDUSTRY OUTLOOK IN 2021 – Material prices are expected to remain high in first half of 2021	24
1. Material prices are expected to remain high in first half of 2021	24
2. Domestic supply of plastic material will not be improved in 2021	24
3. Plastic production and consumption are expected to grow by 5% in 2021.	25

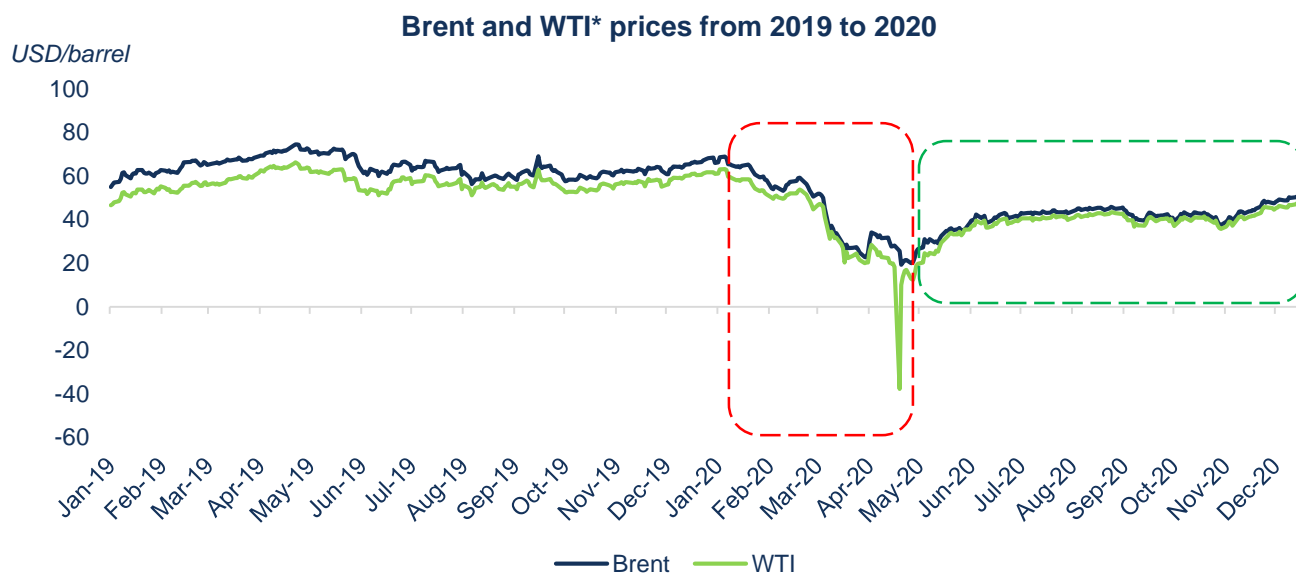
ABBREVIATION AND TERMS

Brent	North Sea sweet light Crude
CAGR	Compounded Annual Growth Rate
Crack Spread	Spread between refined product and crude oil price
MFO	Marine Fuel Oil
EIA	Energy Information Administration.
EU	The Europe Union
Fitch Solutions	Market research firm
HDPE	Primay plastic of High Density PolyEthylene
ICIS	Market research firm
Gas	Natural gas and associated gas
Dry gas	Refined gas used as main fuel for gas power and fertilizer plants
LDPE	Primay plastic of Low Density PolyEthylene
LLDPE	Primay plastic of Linear Low Density PolyEthylene
OPEC	The Organization of Petroleum Exporting Countries
PE	Primay plastic of PolyEthylene
PET	Primay plastic of PolyEthylene Terephthalate
PP	Primay plastic of PolyPropylene
PVC	Primay plastic of Poly VinylClorua
S&P Global Platts	Market research firm
WTI	West Intermediate Texas Crude

A. HIGHLIGHTS OF OIL PRICE MOVEMENT

I. OIL PRICE MOVEMENT IN 2020 – Substantial Fluctuation

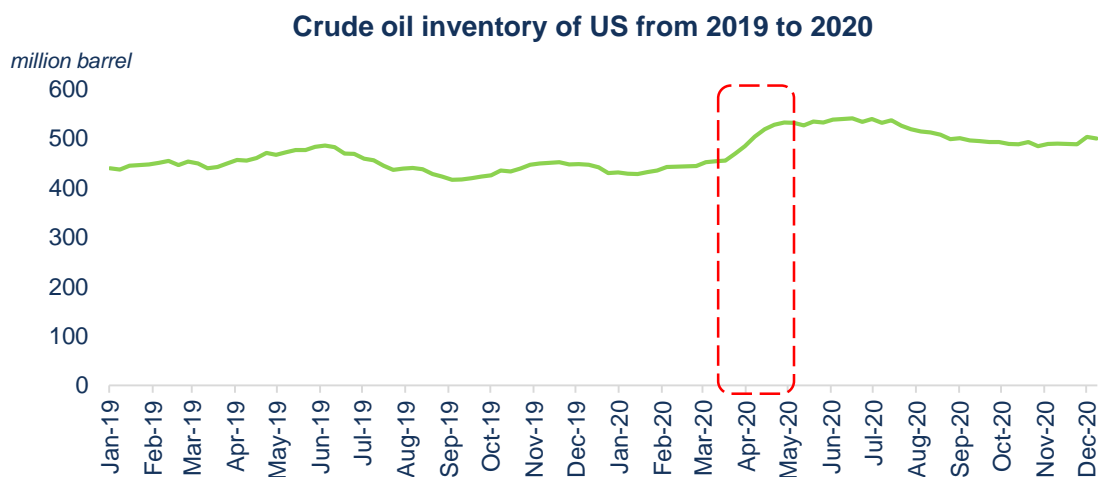
2020 was one of the most volatile years, for crude oil price movement. Both crude oil prices plummeted in the first half of the year due to slumping demand and recovered quickly in the second half, after OPEC and other oil exporting countries agreed to cut overall crude oil production. .



*Future contract, ticker CO1 and CL1

Source: Bloomberg

First half of 2020: A significant drop in crude oil prices



Source: Bloomberg

In the first half of 2020, the price of crude oil, both WTI and Brent, plummeted. Brent oil price dropped from 66 USD/barrel to nearly 20 USD/barrel, equivalent to 70.8% decrease. WTI oil price dropped from 61 USD/barrel to just over 10 USD/barrel, equivalent to 83% decrease. The reasons for this plunge are (1) the COVID-19 pandemic broke out and spread rapidly, forcing the governments applied the social distancing policy. This policy caused economic activities to stagnate, leading to the decline in crude oil consumption.

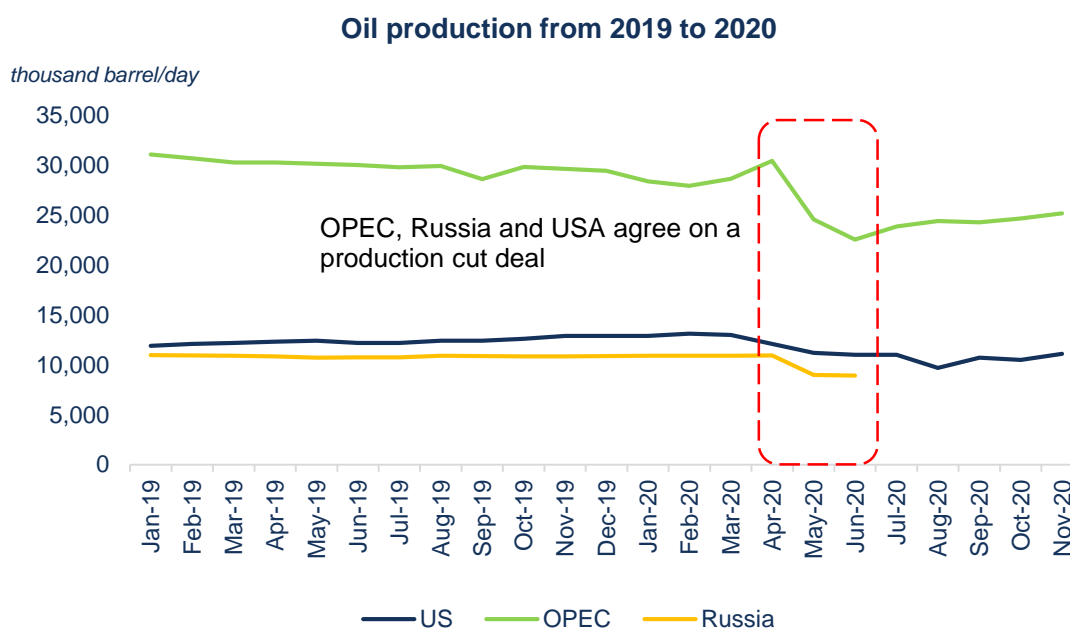
As a result, the average global demand for crude oil in April was 85.34 million barrels/day, decreasing 10.5% compared to the demand in January, (2) the supply increased again when OPEC and Russia had not reach an agreement to cut production in the meeting on 6th March, 2020, leading to retaliation by Saudi Arabia and Russia by increasing production of crude oil. In addition, US crude oil inventories also increased and reached 527.6 million barrels at the end of April, 12% higher than the same period in 2019. This was also a negative factor affecting oil prices in the first quarter of 2020.

Second half of 2020: A quick recovery in oil prices

After crude oil prices plummeted in the end of April, OPEC, Russia and US returned to the bargaining table about cutting production output to support higher crude oil prices. After several rounds of negotiation, on 12th April 2020, these three countries and other oil exporting countries had agreed to come up with a three-phase agreement, in which the output is cut gradually for each phase. This output – cut deal of OPEC, Russia, US and other oil exporting countries will take effect until April 2022, but it will be renegotiated in December 2021.

Phase	Total production cut	Timeline
Phase 1	9.7 million barrels per day	05/2020 – 06/2020
Phase 2	7.6 million barrels per day	07/2020 – 12/2020
Phase 3	5.6 million barrels per day	01/2021 – 04/2022

Source: OPEC

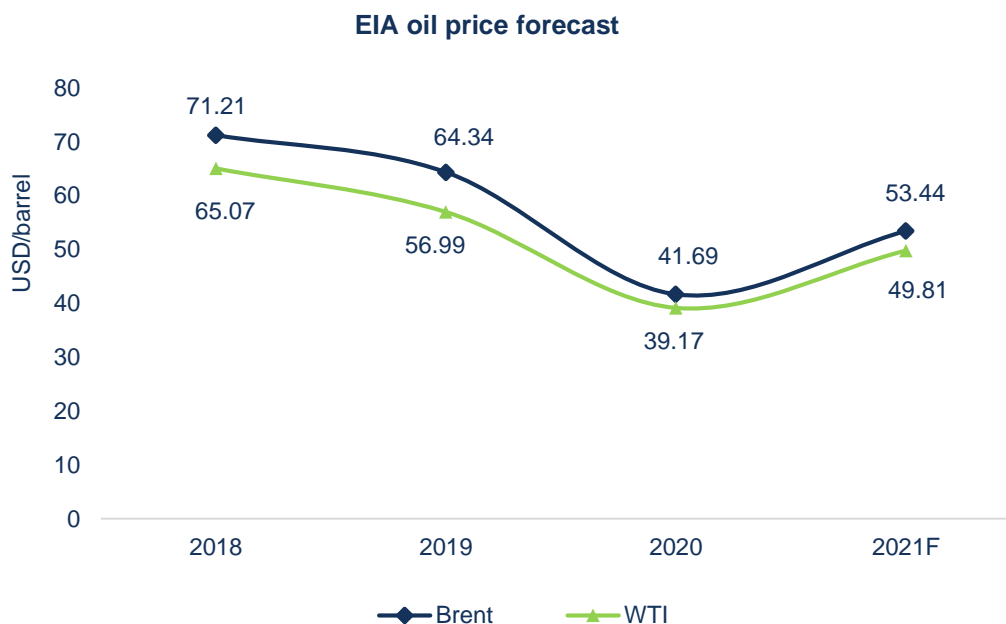


Source: Bloomberg

After the agreement had taken effect on 1st May, 2020, both Russia and OPEC output fell sharply by about 2 million barrels a day in June, reducing the total production about 1 million barrel/day in the third quarter of 2020. The fact that the major crude oil producing regions in the world simultaneously cut their production,

adhering to the agreement, caused the oil supply to reduce. This helped oil prices for both Brent and WTI to recover strongly in the second half of the year. Brent crude oil price rebounded from 25 USD/barrel at the end of May to 50.5 USD/barrel on 19th December 2020, equivalent to an increase of approximately 102%. WTI crude oil price also increased from 18.8 USD/barrel at the end of April to 47.5 USD/barrel on 19th December 2020, equivalent to an increase of about 53%.

II. 2021 Outlook – Crude oil prices are forecasted to increase 28% yoy in 2021



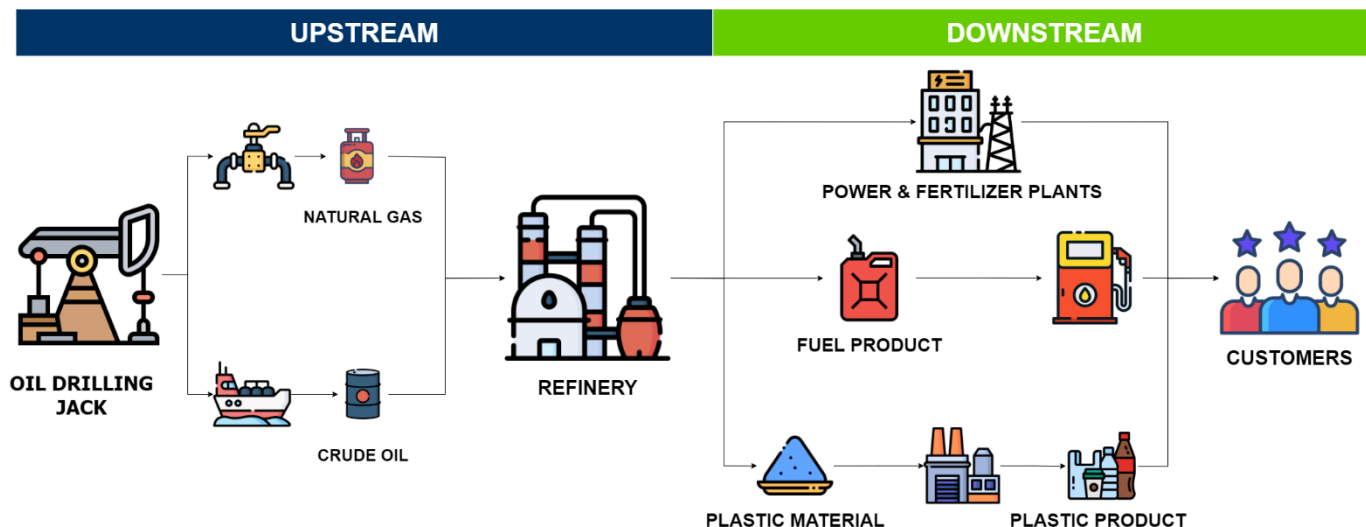
Source: EIA

Crude oil prices in 2020 are negatively affected by (1) declining demand due to disease and (2) increasing supply as Saudi Arabia increased production in the first half of the year. In 2021, both of these factors are expected to be resolved to support the recovery of crude oil prices. According to EIA's forecasts, the price of Brent and WTI crude oil in 2021 will reach 53.44 USD/barrel and 49.81 USD/barrel, increasing by 28.2% yoy and 27.2% yoy respectively. This will be supported by the following factors:

Recovery of economic growth helps to improve demand for crude oil: In 2021, the global economy is expected to recover with a forecasted growth rate of 5.2% with the following drivers (1) Covid vaccines are expected to help control the pandemic and restore production and commercial operations to pre – covid level, (2) governments around the world has also taken the necessary measures to support economic growth. Therefore, the demand for crude oil is expected to increase. EIA forecasted total crude oil demand in 2021 is estimated at 97.8 million barrel/day, increasing 6.07% over the same period.

OPEC and other oil exporting countries are expected to comply with the agreement to help resolve the oversupply of crude oil. In the OPEC meeting on January 4, 2021, in addition to the original cut deal in 2020, Saudi Arabia has voluntarily cut another 1 million barrels a day until the end of the first quarter of 2021. This adjustment means OPEC crude oil production cut will be an average of 8.1 million barrel/day in February and March 2021, about 8% of global crude oil demand. According to EIA forecasts, the average global crude oil supply in 2021 will reach 97.13 million barrel/day, increasing 3.1% over the same period. However, this production level will still be lower than the expected consumption of about 654,000 barrel/day.

III. VIETNAM PETROLEUM INDUSTRY VALUE CHAIN



The Vietnam Petroleum Industry includes two main segments, the Upstream segment and the Downstream segment. The Upstream segment includes companies that exploit, transport and process crude oil and natural gas with the main outputs are gasoline, finished oil, dry gas and petrochemical products such as raw primary plastic materials. The Downstream segment includes companies that use petrochemical products such as gas power plants, fertilizer plants or distributors and retailers of fuel products. The downstream segment also includes companies that manufacture plastic products with primary plastic inputs as input.

Upstream segment: Except for crude oil drilling and transporting companies, the products of refineries are petrochemical and fuel products. The prices of fuel products are often regulated by the government and adjusted according to the price of crude oil, so the price of crude oil will directly affect performance of companies in this segment.

Downstream segment: This includes manufactures that use products other than fuel, such as plastic materials and sulfur-containing chemicals to produce their end products. However, unlike fuel products, prices of these materials are affected not only from the impact of crude oil prices, but also from other factors such as supply and demand of the market at a time.

In 2021, with the expectation that crude oil prices will continue to recover, we will give a specific outlook for the upstream segment with the **Oil and Gas Industry** and the downstream segment with the **Plastic Industry**.



OIL AND GAS INDUSTRY

POSITIVE OUTLOOK SUPPORTED BY OIL PRICE RECOVERY

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Industry highlights in 2020:

In 2020, crude oil price plummeted by 35% yoy, negatively affecting oil and gas industry:

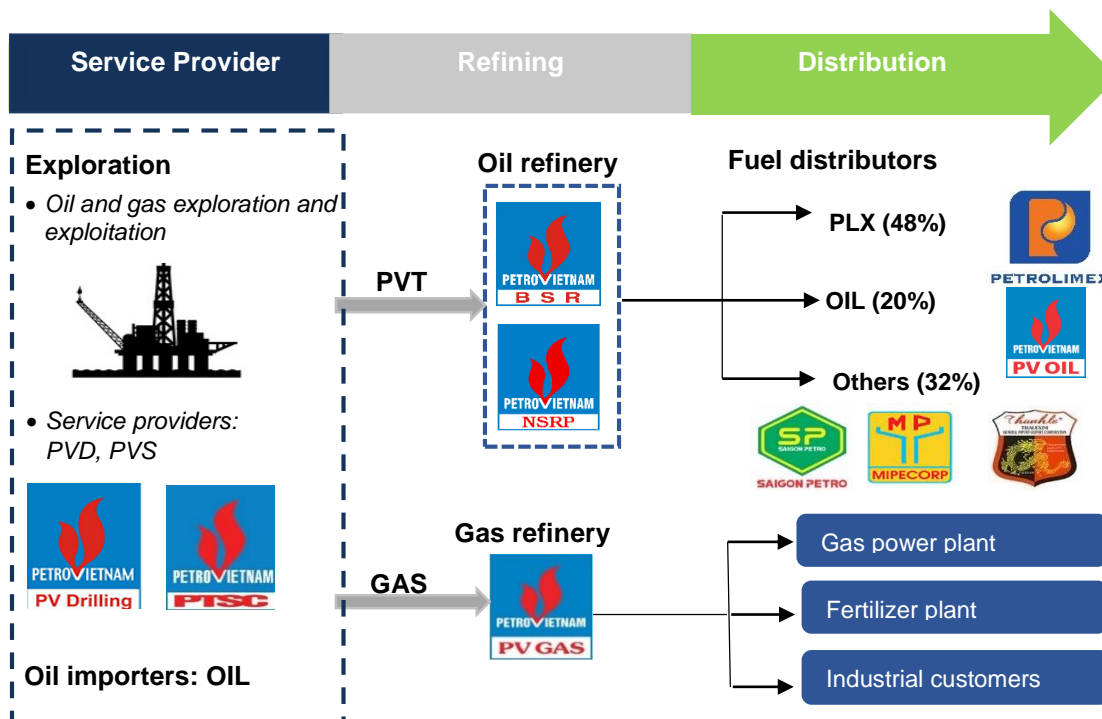
- **Service providers:** Business performance was stable, thanks to signed contracts.
- **Refineries:** Finished products prices fell more significantly than crude oil prices, causing performance to suffer.
- **Gasoline and dry gas distributors:**
 - Gasoline: Companies underperformed because domestic demand decreased by 9% yoy and fuel price plummeted.
 - Dry gas: Performance was stable, thanks to price floor policy.

Industry outlook in 2021:

Crude oil prices are forecasted to recover in 2021. Therefore, Oil and Gas industry in 2021 is expected to be **MORE OPTIMISTIC**, compared to 2020.

- **Service providers:** New contracts of exploration and exploitation is difficult to sign because of unattractive crude oil prices.
- **Refineries:** Crude oil prices and fuel demand are expected to recover, helping companies improve performance.
- **Gasoline and dry gas distributors:** Demand recovery help distributors improve their performance.

I. INDUSTRY CHARACTERISTICS – Business models differ among companies



Companies in oil and gas industry participate in all stages, include exploring, exploiting, refining, transporting and distributing, forming a complete value chain. Companies are divided into 03 segments, based on business model:

Service providers: In Vietnam, exploring companies are not listed on a stock exchange. Therefore, within this report, we will focus on rigs and offshore constructions providers. Characteristics of this group include: (1) Workloads and service prices are associated with oil and gas exploring activities. High crude oil prices promote explorations and exploitations, increasing workloads and service prices; (2) In short term, operational results often lagged with crude oil prices because signed contracts give companies stability regarding workload. The oil price movements will be reflected when companies start new contracts.

Refineries: Crude oil is refined into fuel and petrochemical products. Refinery profits come from spreads between the output prices and crude oil prices. There are 02 major risks of refineries: (1) Refineries always maintain high inventories, so a sharp fall in oil prices will make the output price drop as well. Therefore, profits of refineries will decrease if crude oil prices drop; (2) Oversupply of gasoline and other fuel products makes spread between output prices and crude oil prices narrower.

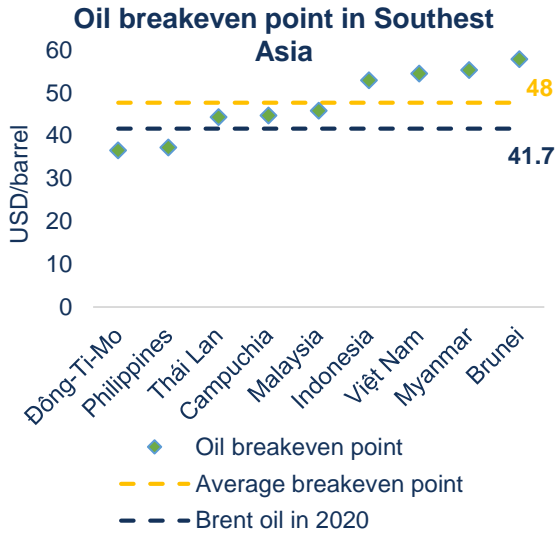
Gasoline and gas distributors: Business model of distribution companies is quite stable thank to government policy. The buying price of crude oil and the selling price of refinery products are determined by the market.

Gasoline distributors: The retail price of gasoline, diessel in Vietnam is calculated based on a government decree No. 83/2014/ dated 3rd September 2014. Decreasing oil price is the biggest risk of fuel distributors because (1) Output price falls more significantly than crude oil price, (2) Distributors have to write-off their inventories.

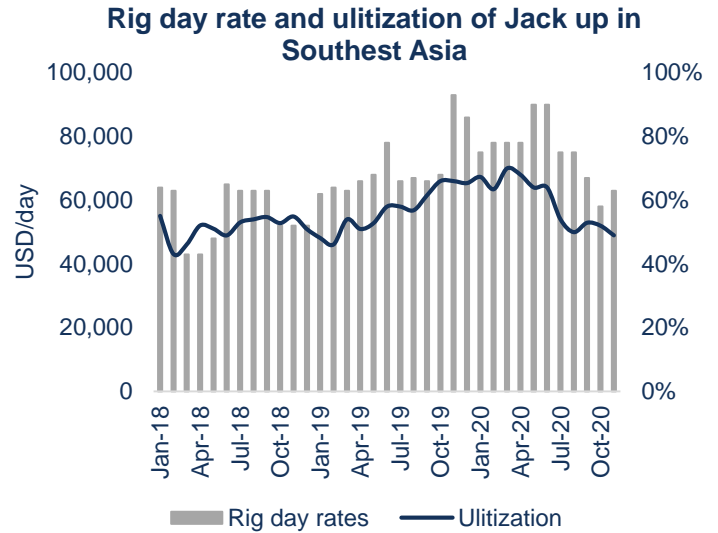
Dry gas distributors. Dry gas policy price is based on MFO price (46%*MFO) with price floor is wellhead prices.

II. INDUSTRY HIGHLIGHTS IN 2020 – Oil price fluctuation negatively affected the industry

1. Service providers: Stable performance in 2020

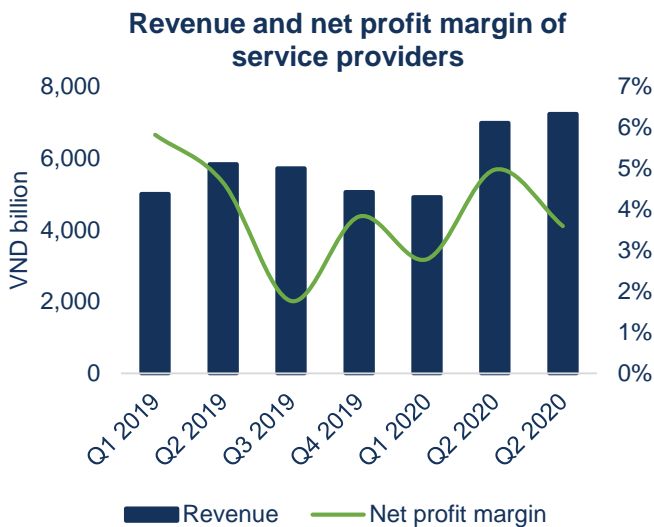


Source: PVN, FPTS research



Source: IHS, Bloomberg, FPTS research

The average Brent crude oil price reached 41.69 USD/barrel in 2020, -35% yoy, lower than average oil breakeven point in Southeast Asia (approximately 48 USD/barrel). This made exploration projects to be delayed. As a result, service demands and service prices decreased. Typical in the rig segment, the average rig day rates in Nov 2020 in Southeast Asia was about 63,000 USD/day, -16% compared to Jan 2020, utilization rates reached only 49% (compared to 67% in Jan 2020).



Source: PVD, PVS, FPTS Research

In short term, business operations lagged with oil price movements (about 6 months – 1 year). The reason is that service providers still carry out works in signed contracts with defined term and fixed service prices. Therefore, oil price movements in 2020 have not been reflected in the business results of service providers. However, when signed contracts are terminated, oil price fluctuations will affect the ability of finding new contracts of these companies and the prices of these new contracts.

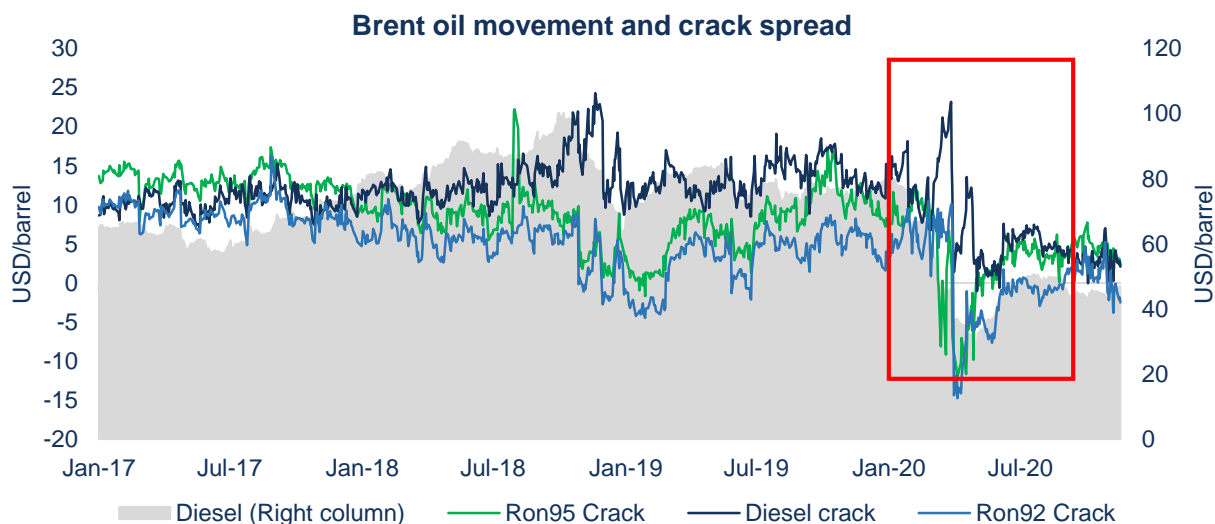
In 3Q 2020, the revenue of service providers increased by 15.6% yoy, the net profit margin reached 3.8% (compared to 4.1% in 3Q 2019).

2. Refineries – Fuel product price fell more significantly than crude oil price

In 2020, refineries were most impacted by oil price movements and covid-19 pandemic:

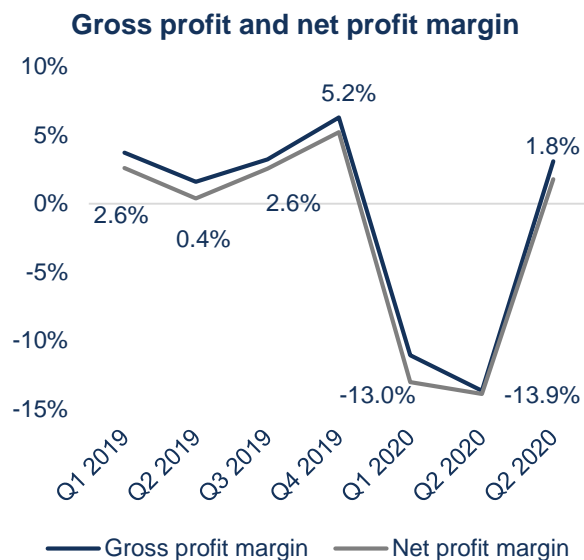
Refineries always maintain high inventories for production (about 30 days). The sharp fall in oil prices led to fuel prices drop as well. Meanwhile, production costs were still high and refineries must write off their inventories. That negatively affected the refineries's performances.

The covid-19 pandemic started to break out, spreading from the end of 2019 to first half of 2020. Fuel demand plummeted because of restrictions and transport limitations. This made gasoline and diesel prices decrease more than crude oil prices. As a result, crack spreads also plummeted. RON95, RON92 gasolines, Diesel crack spreads in 3Q 2020 dropped to 2.97 USD/barrel (-53% yoy), 0.17 USD/barrel (-93% yoy) and 7.33 USD/barrel (-44% yoy).



Source: Bloomberg, FPTs research

Performance of refineries in Q1 and Q2 2020 was affected by (1) The sharp decline in Brent oil price in March and April 2020, (2) Fuel demand plummeted in the first half of 2020, pushing crack spreads down sharply (even down to negative level for RON95 and RON92 gasolines). Net profit margin of these companies in Q1 and Q2 2020 dropped to -13% and -13.9%. In Q3 2020, crack spreads recovered to positive level of 1.8% due to rising Brent. However, crack spreads for RON95, RON92, Diesel in Q3 2020 remained about 50% lower than in Q3 2019



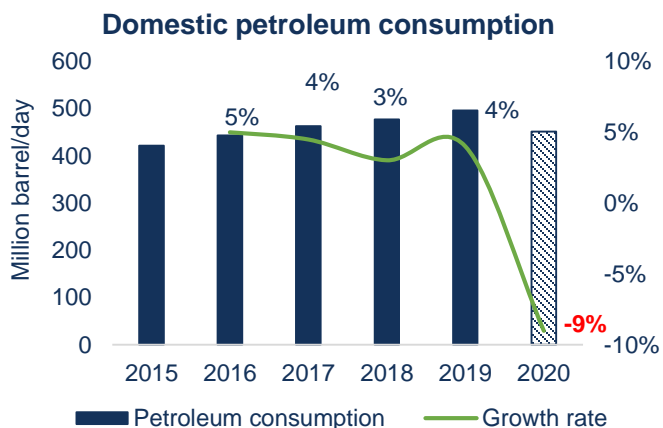
Source: BSR, FPTs Research

3. Distributors – Different business models and policies make performance of distributors diverge

3.1 Gasoline distributors: Fuel prices fell due to weak demand in first half 2020

Domestic fuel demand decreased by 9% yoy because of the pandemic:

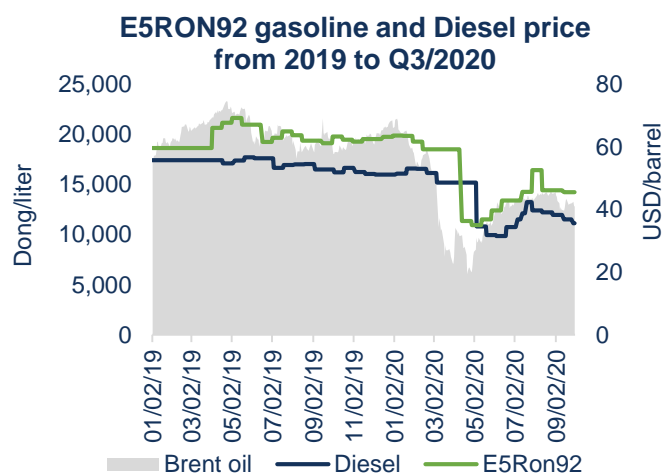
On 23th January 2020, Vietnam recorded the first case of covid-19 infection. The following restriction measures such as quarantines, transport limitations (from 1st April to 22th April in 2020) caused domestic fuel demand to decline. According to Fitch Solutions, the average domestic fuel demand in 2020 was at 451.4 thousand barrels/day, -9% yoy.



Source: Fitch Solution, FPTs research

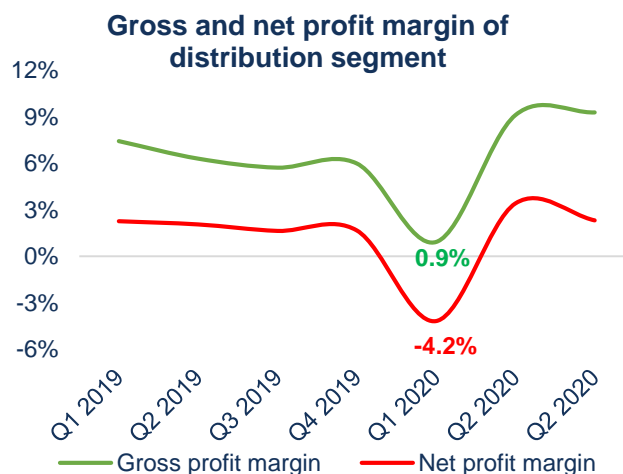
Retail prices of fuels plummeted:

The wholesale prices at which refineries sell their products are the base prices of domestic retail prices. The average E5RON92 gasoline and Diesel prices in 3Q 2020 reached about 15,536 VND/liter and 12,645 VND/liter, respectively, down by 26.5% yoy and 35.8% yoy. The sharp drop in retail fuel prices in 2020 affected fuel distributors in 02 ways: (1) The retail fuel prices were lower than the costs imported before, (2) Fuel distributors write-off inventories value at market prices.



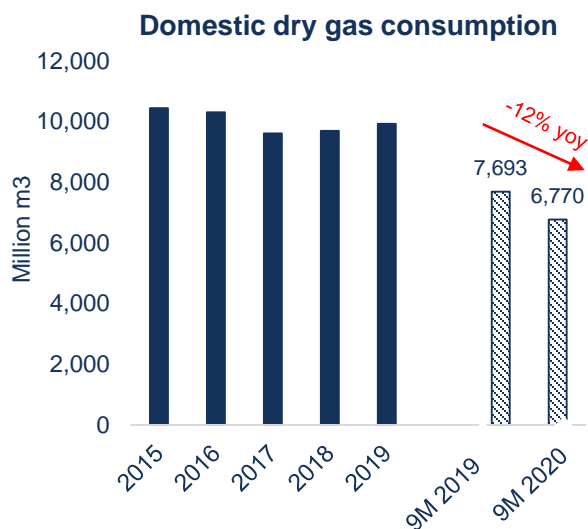
Source: Ministry of Industry and Trade, Bloomberg

Accordingly, the fuel distributors's business results were negatively affected in 2020, due to the decrease in volume distribution and retail fuel prices. In which, the profits dropped the most in Q1 2020, net profit margin of fuel distributors reached negative threshold, -4.2% (compared to 2.3% in Q1 2019). The business results have been improved since the second quarter of 2020, following crude oil prices recovery.

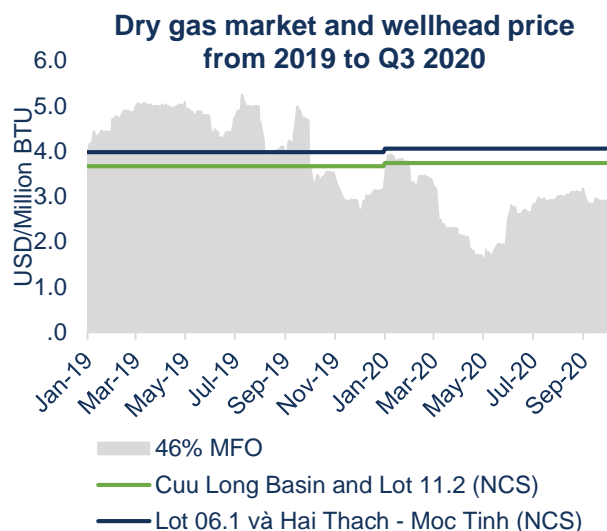


Source: PLX, OIL, FPTs research

3.2 Dry gas distributor – Stable performance because of floor price policy



Source GAS, FPTs research

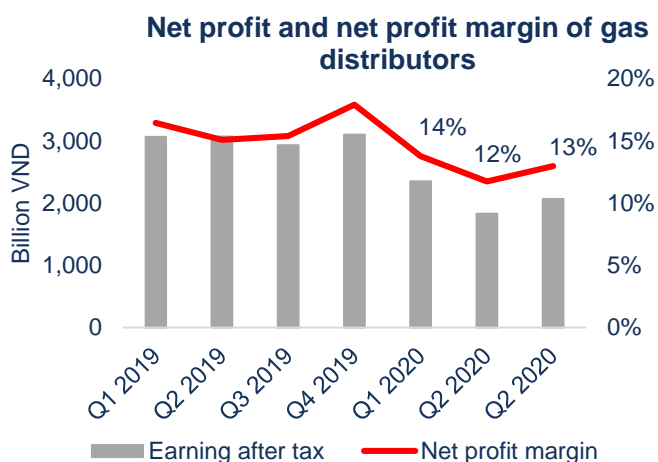


Source: Bloomberg

Dry gas consumption decreased by 12% yoy due to supply shortage: Increasing incidents in upstream made dry gas production in 3Q 2020 reached 6,770 million m³, decreased by about 12% yoy. Total gas production in Nam Con Son basin (the basin have the largest gas production in Vietnam) decreased by 18% yoy because (1) Lot 11.2 stopped supplying gas from 8th March to 7th August, 2020, (2) Major gas fields were at the end of their production phase.

The dry gas market price was lower than the wellhead prices: The domestic dry gas prices based on formula 46%*MFO, applying the floor prices are wellhead prices. In 3Q 2020, the MFO price and the dry gas market price decreased by 40.7% yoy, the average dry gas market price in 3Q 2020 was about 2.4 USD/MMBTU. The market price was lower than wellhead prices (about 4 USD/MMBTU), therefore, the prices in 2020 applied wellhead prices. Accordingly, dry gas distributors did not get the spreads between market and wellhead prices as in 2019, profits came from transportation fees.

In 2020, although MFO price plummeted led to dry gas market price was lower than wellhead prices. Dry gas distributors still benefit from transportation fees. In 3Q 2020, earning after tax decreased by 31% yoy, the average net profit margin reached 12.8%, decreased by 2.8 percentage points over the same period (due to there was no spreads between dry gas market and wellhead prices, similar in 3Q 2019).



Source: GAS, FPTs research

III. INDUSTRY OUTLOOK IN 2021 – Positive outlook supported by oil price recovery

1. Service providers: Difficulty in finding new contracts

EIA forecasts the average Brent oil in 2021 will reach 53.44 USD/barrel, +28% yoy. Although expected to recover, the forecasted Brent oil price in 2021 is still approximately at the average oil breakeven point in Southeast Asia (about 48 USD/barrel). In major markets such as Vietnam, Malaysia, Brunei, oil breakeven points are even higher, about 55 USD/barrel, higher than forecasted Brent oil in 2021. Accordingly, we suppose that oil and gas exploration, exploitation projects will not be really exciting. Projects continue to delay and there are few new exploration projects because the spreads between oil breakeven points and oil price are not attractive. Besides, the low demand for oil and gas service is also reflected negatively on the service prices. **This will have a negative impact on the service providers's business performance.**

2. Refineries: Performance is expected to improve due to higher oil price and fuel demand

Refineries' business performance depend on: (1) Crude oil price movements, (2) Gasoline and Diesel crack spreads. Expecting that both factors will be improved in 2021.

The forecasted Brent oil price increases by 28% yoy and stabilize in 2021. This makes refineries will not be affected by the inventories impact similar to 2020.

We divide into 02 periods of crack spreads forecasting:

The first half of 2021: The restriction policies in many countries continue to make fuel demand to recover at a low level. Therefore, we suppose crack spreads will continue to be similar to the end of 2020, around 5 USD/barrel (more positive than the negative threshold in the first half of 2020).

Second half of 2021: Expecting that starting in mid-2021, when the covid-19 vaccines are widely vaccinated, the pandemic is controlled, supporting fuel demand recovery. Accordingly, crack spreads are also expected to improve positively from the second half of 2021.

3. Distributors: Higher demand is expected to boost performance of fuel distributors

3.1 Gasoline distributors – Bouncing back to pre-covid level

It is expected that domestic fuel consumption and retail fuel prices will improve positively, supporting fuel distributor's business performance:

Output: Coming to 2021, expecting that the pandemic will be controlled and there will be no restriction in Vietnam similar to 2020, supporting domestic fuel demand recovery. According to Fitch Solutions, domestic fuel demand will reach 487.5 thousand barrels/day in 2021, +8% yoy.

Price: The domestic retail fuel prices are expected to recover following crude oil prices and reduce volatility, which support the profitability of fuel distributors. Assuming that Brent oil price reaches 53.44 USD/barrel, the RON95, E5RON92 gasolines and Diesel are estimated at 18,301 dong/liter (+18.8% yoy), 17,902 dong/liter (+21.5% yoy) and 13,978 dong/liter (+14.4% yoy).

3.2. Dry gas distributor – Modest growth

Output: Fitch Solutions forecasts that dry gas production in 2021 will reach 9.8 billion m³, increase by about 7% yoy. The reason comes from the Sao Vang – Dai Nguyet project which has been put into commercial operation from November 2020. This project will supply about 1,350 million m³ gas in 2021 (about 13% of total gas output). Accordingly, gas output from Sao Vang – Dai Nguyet field will be expected to compensate for gas production shortage at other gas fields.

Price: With Brent oil price reaches 53.44 USD/barrel in 2021, we estimate that the dry gas market price will be about 4 USD/MM BTU, equivalent to wellhead prices. Therefore, the dry gas prices are still maintain wellhead prices, similar to 2020.

In 2021, with the production growth of 7% yoy and the policy of selling dry gas at wellhead prices, similar to 2020, profits of dry gas distributors is expected to increase slightly compared to 2020.

IV.COMPANY WATCHLIST

Stock Code	Market Cap (25/01/2021) Billion VND	Revenue 9M2020 Billion VND	Net Income 9M2020 Billion VND	Net Income Growth	Net Profit Margin	ROE 4 LTM	P/E
GAS	162,112	48,625	6,246	-31.1%	12.8%	18.4%	17.32x

- GAS is the only company in Vietnam operating in dry gas transporting, processing and distribution. GAS transports gas from offshore to inland, processed into dry gas product and distributed to customers.
- GAS's business model is relatively stable thanks to the gas buying and selling prices are specifically determined by the government, pegged to the MFO price. Dry gas selling prices apply the floor prices as wellhead prices. The company's profits come from (1) Gas transportation fees, (2) the spreads between dry gas market and wellhead prices. In 2020, The dry gas price fell lower than wellhead prices, so GAS did not get the spreads as in 2019, the profits are merely gas transportation fees. Therefore, 9M 2020, Gas's earning after tax decreased by 31.1% yoy.
- 2021 outlook: Assuming that Brent oil price reaches 53.44 USD/barrel, +28% yoy, the dry gas market price will be equal to wellhead prices. Therefore, GAS's profits in 2021 will still come from transportation fees, similar to 2020. Gas output from Sao Vang – Dai Nguyet field which has been put into commercial operation from November 2020, this project will supply about 1,350 million gas (about 13% of total gas output) will offset the gas declining in other fields.

PLX	69,740	92,647	228.6	-93.7%	0.2%	4.3%	51.3x
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- PLX is the leading company in fuel distribution segment with a market share reaches about 50%. Characteristics of fuel distribution segment in Vietnam, the companies receive a fixed profit of 300 dong/liter. Thanks to focusing on retail strategy, PLX has a much higher profit margin than rivals.
- In 2020, PLX recorded a strong loss in Q1 due to the sharp drop in oil prices, the company had to write-off inventories value. In Q2 and Q3 2020, the business performance improved because crude oil prices and petroleum consumption recovered. The sharp fall in oil prices made PLX 3Q 2020's revenue decreased by 34% yoy, profit after tax in 3Q 2020 decreased by 93.7% yoy.
- 2021 outlook: In general, for fuel distributors, profits are relatively stable, businesses improve profit by increasing output. We suppose that PLX's output will increase by 8% yoy in 2021 (equivalent to the growth rate of domestic fuel distribution segment) and the company profits will recover positively compared to 2020 under the assumption of brent oil price remain stable at 53.44 USD/barrel.

BSR	35,966	4,824	-4,094	n/a	-10%	-11.1%	n/a
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- BSR is the owner and manager of Dung Quat oil refinery – the first refinery in Vietnam. Now, BSR is meeting about 30% of demand for petroleum products in domestic.
- In 2020, BSR recorded a record loss in Q1 and Q2 because (1) Crude oil prices dropped sharply, BSR had to write-off inventories, (2) crack spread plummeted due to weakening petroleum demand. 3Q 2020, oil price

recovered, but due to crack spreads improved and BSR had to stop to maintain between August 12 and October 01, 2020, so Q3 2020, profits are relatively limited. As a result, 3Q 2020, BSR still recorded a negative net profit, -4,094 billion dong.

- 2021 outlook: Crack spreads are expected to remain equal to the level at the end of 2020, about 5 USD/barrel, higher than in the first half of 2020. In the second half of 2021, crack spreads will recover when covid-19 vaccines are widely distributed and fuel demand recover.



PLASTIC INDUSTRY

MATERIAL PRICES ARE EXPECTED TO REMAIN HIGH IN SHORT TERM

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Industry highlights in 2020

The plastic industry in 2020 continued to slow down with the growth rate in plastic production and consumption, estimated at 5.3%, lower than the average of about 12.9% in the from 2015 – 2019.

Plastic raw material prices fell by an average of 18% in the first half of the year, helping downstream plastic converters improve their gross profit margin.

Industry outlook in 2021

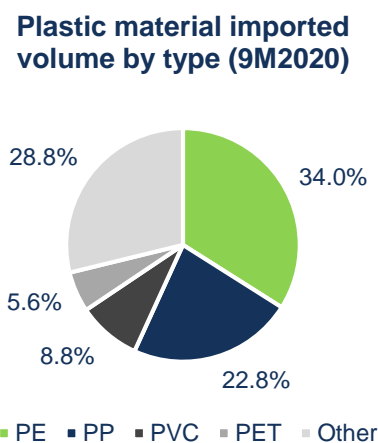
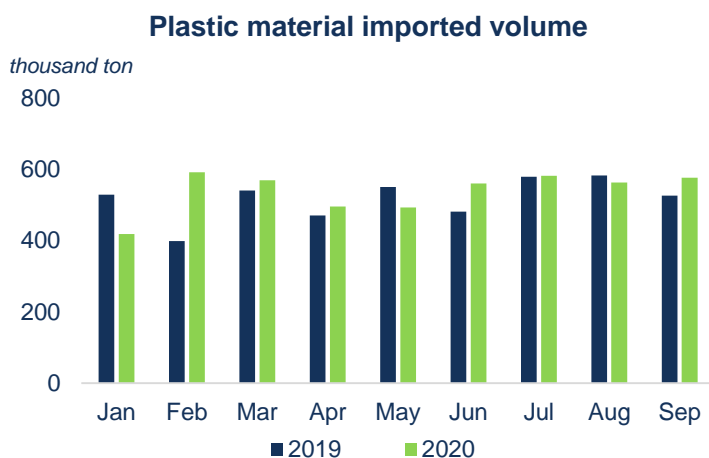
Plastic industry is expected to be **LESS OPTIMISTIC** in 2021, compared to 2020 due to some following factors:

- The price of plastic materials in the first half of 2021 is forecasted to remain 15 - 24% higher than the same period, negatively affecting the profit margin of plastic converters.
- Domestic supply of plastic materials will not be improved due to the delay of Long Son petrochemical project.

I. INDUSTRY HIGHLIGHTS IN 2020 – Plastic converters benefited from lower material prices

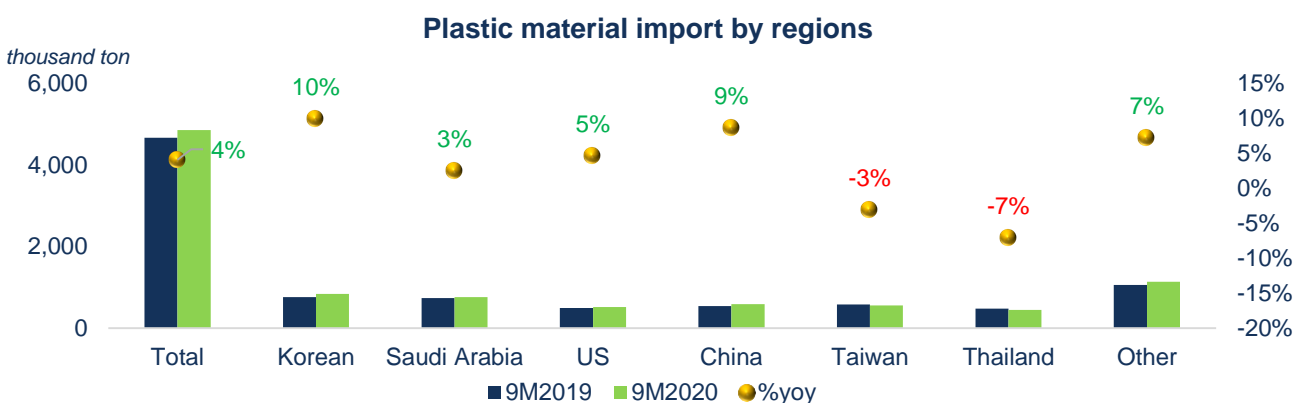
1. Material prices plummeted in the first half of the year then recovered quickly in the second half

1.1. Material supply is not disrupted by the pandemic



Source: Vietnam Custom

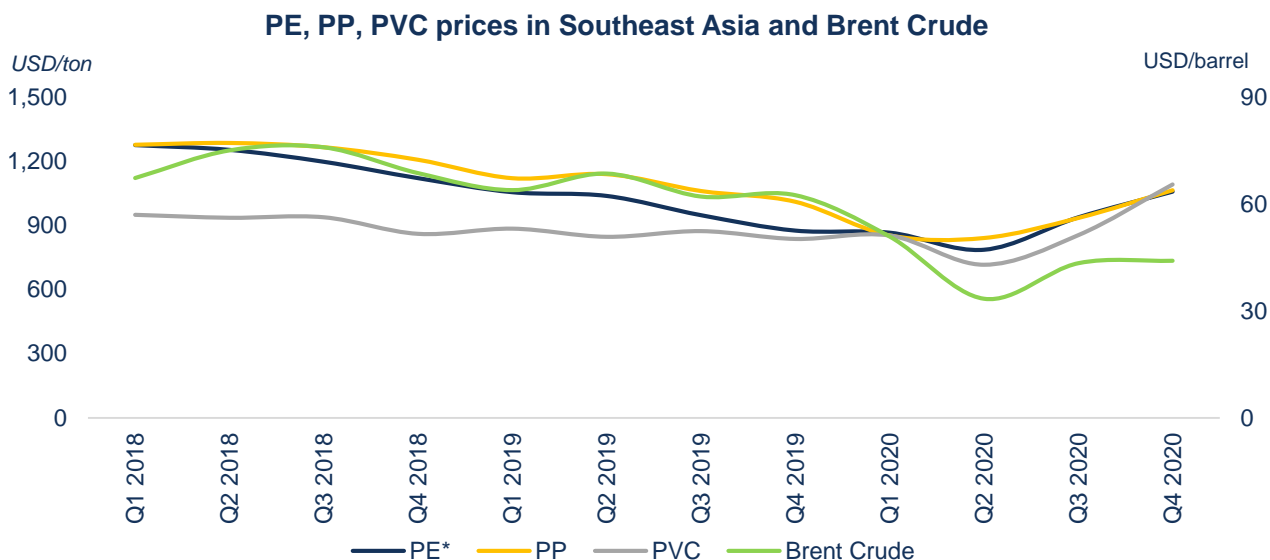
Vietnam's plastic industry, as well as some other industries, currently depends heavily on imported raw materials. However, unlike some other industries such as textiles, pharmaceuticals, the plastic industry is not affected by the disruption of the supply chain due to the impact of the pandemic in the first quarter of 2020. Monthly imported volume of raw plastic materials in 2020 remained stable as in 2019. Among many different materials, PE still accounts for the largest proportion with 34% in the first 9 months of 2020. PP and PVC are the second and the third most imported materials with the proportions of 22.8% and 8.8% respectively.



Source: Vietnam Custom

In the first 9 months of 2020, Vietnam imported about 4.85 million tons of raw plastic materials, equivalent to a 4% increase over the same period in 2019. South Korea and Saudi Arabia are still the two major suppliers. China, the region most affected by the pandemic in the first quarter of 2020, was the region on which where Vietnam imposed the most stringent control measures. However, the volume of materials imported from China in the first quarter grew by 22.7%. This figures for the first 9 months of the year increased about 9% yoy.

1.2. Material prices plummeted in the first half of the year then recover quickly in the second half.



*average price of HDPE, LDPE and LLDPE

Source: Bloomberg

In 2020, the prices of plastic materials in Southeast Asia fluctuate dramatically. There are two main phases, in which the prices of plastic materials behave differently with different drivers, as follows:

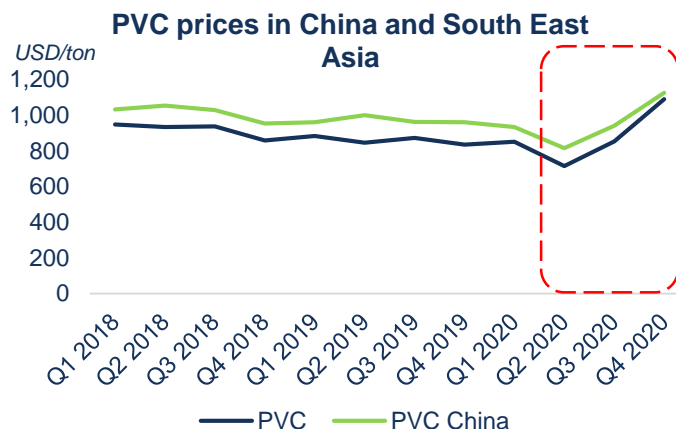
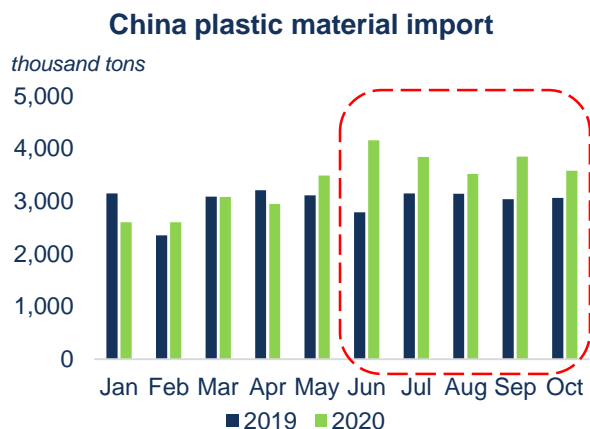
Phase 1: A significant fall in the first half of the year

The downward trend in prices of plastic materials such as PE, PP and PVC has persisted since 2018, following the decline in Brent crude prices. In the fourth quarter of 2019 and the first quarter of 2020, the prices of plastic materials continued to fall because of the significant drop in price of Brent oil and the oversupply situation in the region ([2020 Outlook](#)). Brent crude price dropped significantly to an average of 33 USD/barrel in Q2 2020, 51% lower than in Q2 2019. The sharp fall in Brent oil price caused the price of plastic materials such as PE and PP in Q2 2020 to decline to the lowest level for the most recent 5 years. In the second quarter of 2020, PE and PP prices averaged at 785 USD/ton and 840 USD/ton, a decrease of 24.3% and 26.3% respectively over the same period in 2019. PVC prices in the second quarter of 2020 also plunged to the lowest level in 5 years when the demand of China, the world's largest PVC production and consumption region, weakened due to the impact of the epidemic in the first half of the year. PVC prices in the second quarter of 2020 averaged at 716 USD/ton, 15.4% lower than in second quarter of 2019.

Phase 2: A quick recovery in the second half

After bottoming out in the second quarter of 2020, material prices bounced back in the last two quarter of the year, supporting by these following drivers:

The first driver was the rapid increase of Brent oil after hitting the bottom in the second quarter. This was the main reason why PE and PP prices in the region recovered quickly. Average PE price in 3Q 2020 increased 19.4% from the bottom in second quarter, reaching 937 USD/ton that was equal to the average price in Q3 2019. PP price in Q3 2020 averaged at 934 USD/ton, approximately 11.2% higher than the bottom level in Q2 and about 11.9% lower than the average price in Q3 2019.

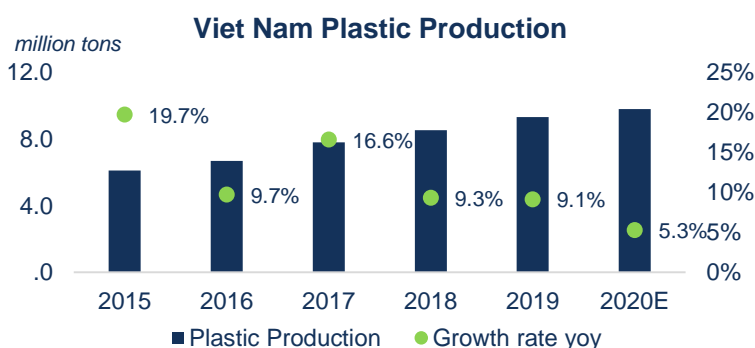


Source: Bloomberg, China Custom

The second driver for the sharp increase in the prices of raw materials in the third and fourth quarter was the noticeably rise of demand in China. After the pandemic had been controlled, Chinese government had increased investment in infrastructure projects, making the demand for plastic materials in China recover quickly. From June to October 2020, China's import of plastic materials each month increased by an average of 25% over the same period in 2019. China is the largest PVC production and consumption region in the world, so strong demand there has a huge impact on PVC prices across Southeast Asia. PVC prices in Southeast Asia increased substantially in Q3 2020, reaching a 5-year high in Q4 2020. PVC prices in Southeast Asia in Q3 and Q4 increased by 19.3% yoy and 52.2% yoy, averaging at 854 USD/ton and 1,090 USD/ton, respectively. PVC price in Southeast Asia in Q4 2020 was at USD 1,090 USD/ton, 30.4% higher than in Q4 2019.

The third driver was the disruption of supply from North America region due to storms and hurricane in the second half of the year ([appendix](#)). North America is a major supplier in term of plastic materials for Asia region ([Plastic Industry Report - 2019](#)). In the second half of 2020, the Gulf of Mexico area, where most of large petrochemical plants in North America are located, was directly affected by three major storms: Hurricane Hanna (July 2020), Hurricane Laura (August 2020) and Hurricane Delta (October 2020). This caused the petrochemical plants to shut down. While the rise in Brent crude price slowed down, the disruption of supply from North America was the main reason why PE and PP prices in continued to increase by 12.8% and 13.9% respectively Q4 2020, compared to in Q3 2020.

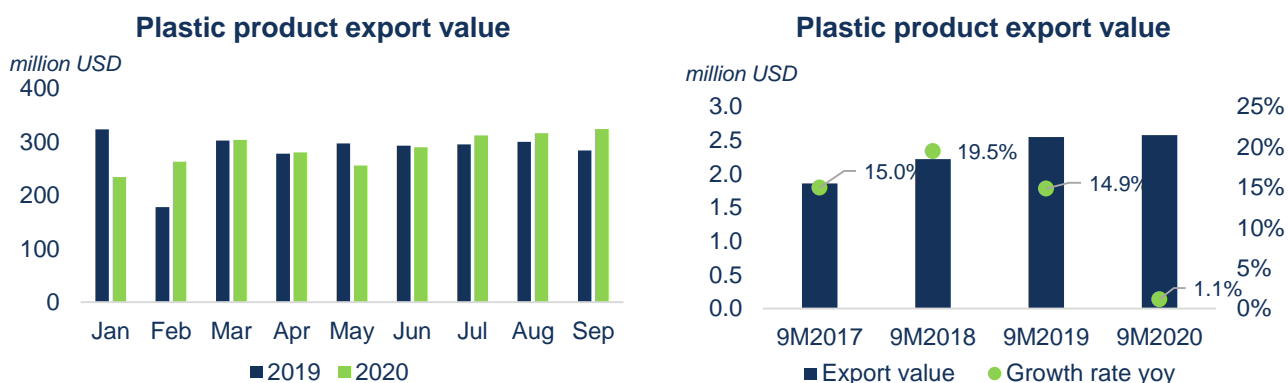
2. A slowdown in plastic production and consumption



Source: GSO, FPTs estimate

Vietnam plastic industry has matured. In 2020, Vietnam's consumption of plastic products is estimated at 9.1 million tons, equivalent to an increase of 5.3% yoy. The production growth rate in 2020 is much lower than the compounded annual growth rate of about 12.9% in the 2015 – 2019 period.

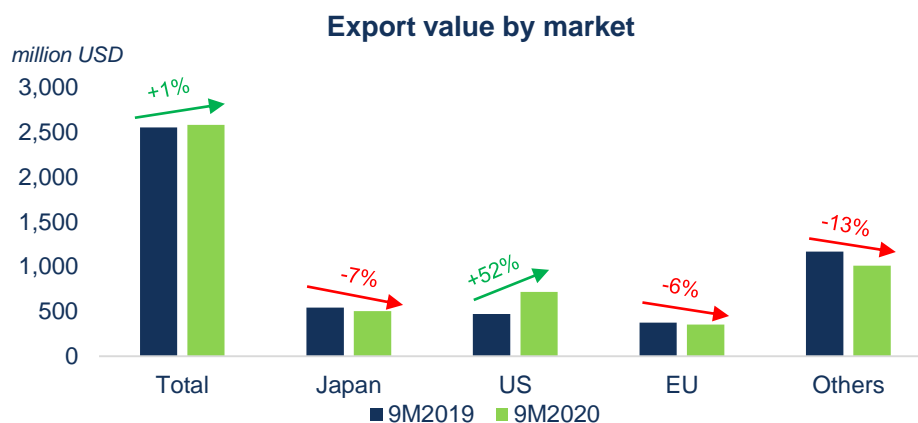
2.1. Export value of plastic products slowed down



Source: Vietnam Custom

Exporting plastic products, like importing raw materials, was not affected and disrupted by the border control measures during the outbreak of the pandemic. In the second quarter, when the disease broke out strongly in major markets such as the EU and Japan, the value of exported plastic products decreased by 4.8% over the same period. In the third quarter, after the epidemic subsided and the social distancing measures eased, export value of plastic products recovered with a value of about \$ 952 million, a 8.3% increase yoy. Although exporting of plastic products was uninterrupted, the growth of the exported value has slowdown. Export value in the first 9 months of 2020 is estimated at 2.58 billion USD, equivalent to a growth rate of 1.1% yoy, much lower than the CAGR in the period of 2017 - 2019.

2.1.1 Export value grows strongly in US market while declines slightly in EU and Japan.

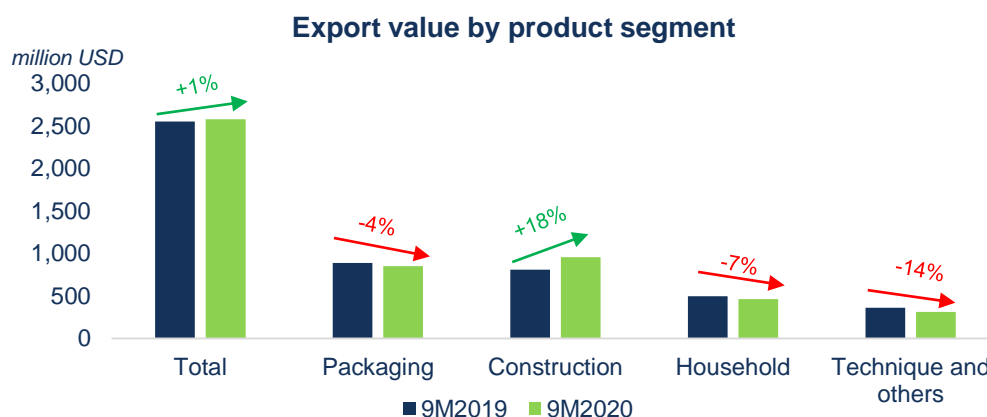


Source: Vietnam Custom

The value of plastic products exported to the US market in 9M 2020 is estimated at 715 million USD, 52% increase over the same period. Growth momentum for the US market comes from plastic sheets, films and other products used in construction. Demand for these product in US witnessed a noticeable growth due to the need of building quarantine areas when disease outbreaked in this area. The value of these two categories exported to the US market grew by 289% yoy and 539% yoy. In contrast, export value to EU and Japan dropped in 9M 2020. The value of exported plastic products to Japan in 9M 2020 is estimated at 503 million USD, 7% decrease yoy. The main reason is that Japan officially applied a law restricting the use of disposable plastic bags (shoppers must pay for each plastic bag used) from 1st July, 2020. This makes

the value of exported plastic bags that accounts for 40% of the value of plastic products exported to Japan, decreased by 17.6% yoy in 9M 2020. Moreover, the exported value of plastic products to Europe in 9M 2020 is estimated at 352 million USD, 6% decrease yoy. The reason is that exports of plastic products to France (the third largest market in the EU) plummeted 23.5% yoy. France is the region most affected by the epidemic (with 2.56 million cases, the highest figure in EU), resulting two national lockdowns in the first 9 months of the year. This led to a drop in demand for plastic products such as plastic bags when people were not be able to shop freely.

2.1.2. Strong growth in the construction segment

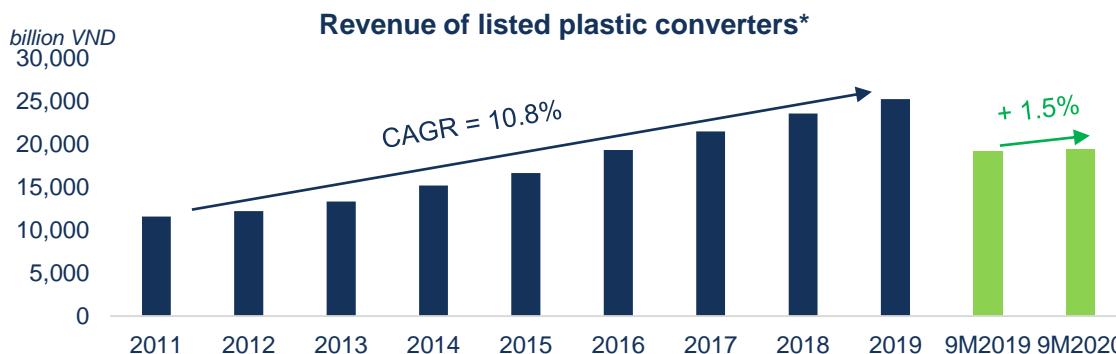


Source: Vietnam Custom

Among exported plastic product segments in the first 9 months of 2020, construction is the segment with the largest growth rate. The value of construction plastic products exported in the first 9 months of 2020 is estimated at 954 million USD, 18% increase yoy. Among many construction plastic products, plastic sheets and films accounted for the largest proportion of about 55% and grew 20% in the first 9 months of the year. This was due to the increase in demand for products for the construction of quarantine and protection areas when the epidemic broke out in the first half of 2020. Export value of the remaining two segments, packaging plastic and household in the first 9 months by 2020, are estimated at 852 million USD and 463 million USD, equivalent to a 4% decrease and a 7% decrease respectively.

3. Plastic converters performance in 2020 – Gross margin is improved thanks to low material prices

3.1. Revenue growth slowed down because the industry has matured

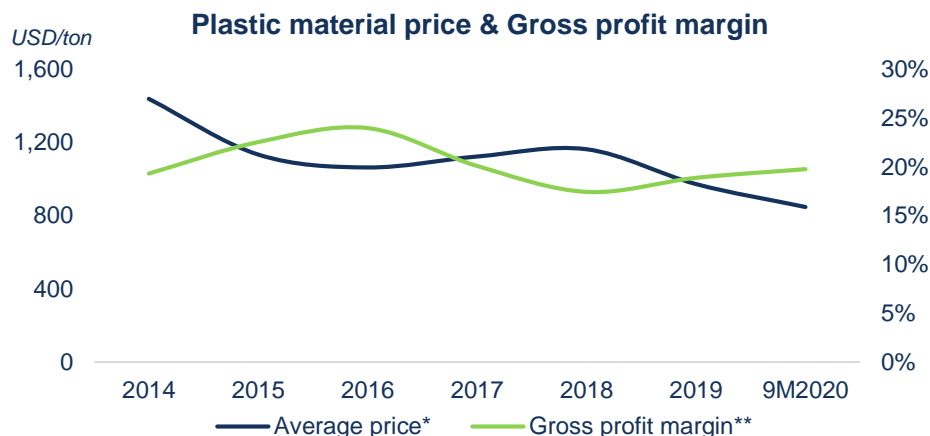


*Listed companies include: AAA**, NNG, RDP***, VBC, TPP, TPC, NHP, BBS, BPC, PMP, BXH, STP, PBP, BMP, NTP, DNP, DAG, DPC, NHH

**account only for revenue form packaging segment of AAA and RDP

From 2011 to 2019, the revenue of downstream plastic converters grew with an CAGR = 10.8%, equivalent to the growth rate of output of plastic products, produced in the same period. In the first 9 months of 2020, the total revenue of the listed plastic converters in Vietnam was 19.4 trillion VND, 1.5% increase over the same period in 2019.

3.2. Gross margin was improved thanks to low material prices



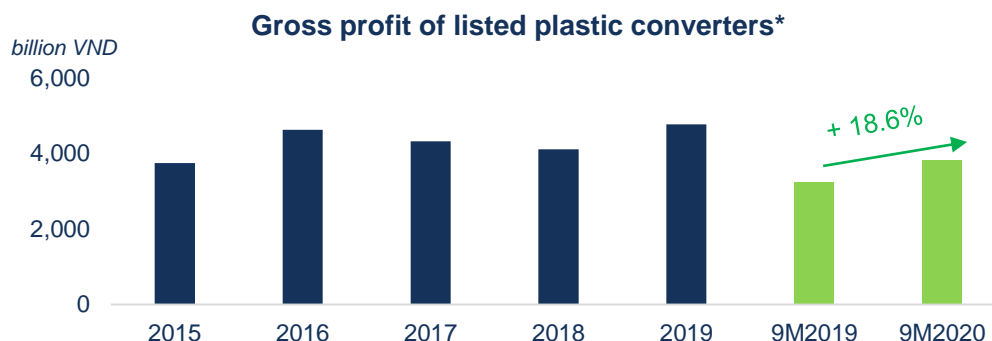
*Average price of HDPE, LDPE, LLDPE, PP and PVC

** Listed companies include: AAA***, NNG, RDP***, VBC, TPP, TPC, NHP, BBS, BPC, PMP, BXH, STP, PBP, BMP, NTP, DNP, DAG, DPC, NHH

*** account only for revenue form packaging segment of AAA and RDP

Source: Bloomberg, FPTS research

Raw plastic material accounts for approximately 70% in cost structure of downstream plastic converters ([Plastic Industry Report - 2019](#)). In the first half of the year, the prices of plastic materials decreased by an average of 18%, following the drop in Brent crude price. This helped the gross profit margin of downstream plastic converters improve from an average of 18.9% in 2019 to 19.8% in the same period of 2020. The total gross profit of listed plastic converters in the first 9 months of 2020 is estimated at VND 3,834 billion, equal to a 18.6% increase over the same period.



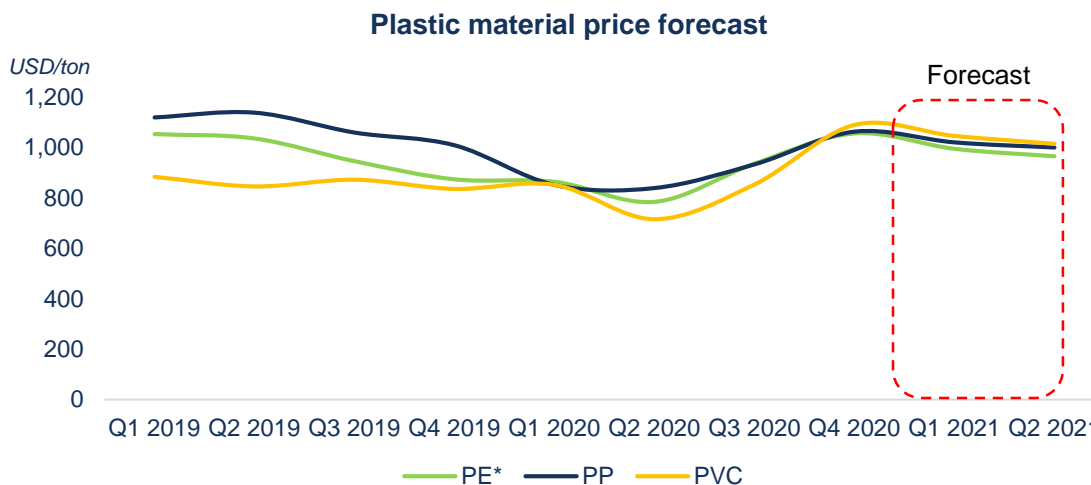
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*** account only for revenue form packaging segment of AAA and RDP

Source: FPTS Research

II. INDUSTRY OUTLOOK IN 2021 – Material prices are expected to remain high in first half of 2021

1. Material prices are expected to remain high in first half of 2021

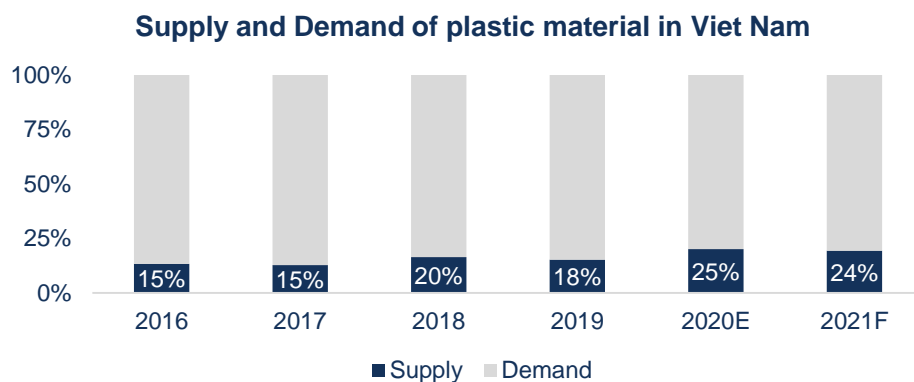


*average price of HDPE, LDPE and LLDPE

Source: Bloomberg, ICIS, FPTs Research

In the first half of 2021, plastic material prices are forecasted to decrease slightly, compared to the third and fourth quarter of 2020, when refineries in North America come back online after the storm season in the Atlantic region. Ocean. This will help solve the short-term supply shortage of plastic materials in Asia region, therefore the increasing trend of material prices will slow down. Average prices of PE, PP and PVC in Q1 2021 are forecasted at 996 USD/ton, 1,021 USD/ton and 1,047 USD/ton, decreasing 5.7%, 4% and 3.9% compared to the level in Q4 2020. However, these prices will still be much higher than in the same period in 2020, specifically PE (+15.1% yoy), PP (+19.8% yoy) and PVC (+22.9% yoy). The reason for that are (1) crude oil price is forecasted to continue its recovery trend in 2021, (2) demand from the Chinese market is predicted to remain strong in the first and second quarter of 2021. The plastic raw material prices are forecasted to remain high in the first half of 2021, which will negatively affect the gross profit margin of downstream plastic converters.

2. Domestic supply of plastic material will not be improved in 2021

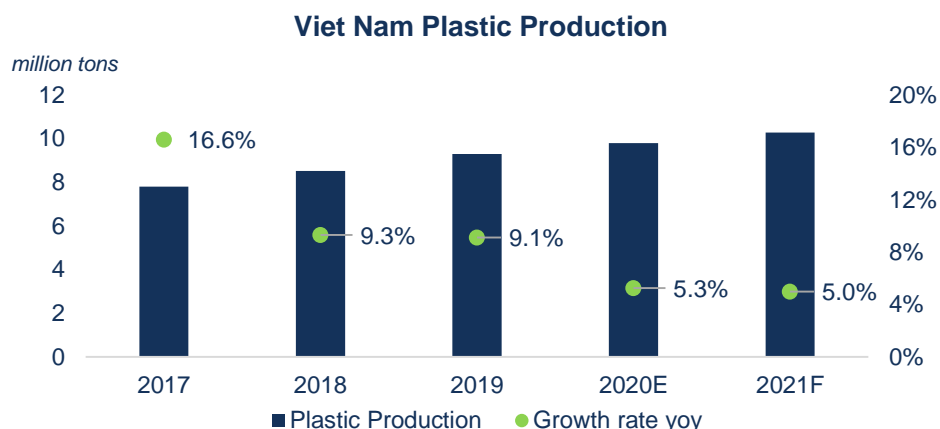


Source: S&P Global Platts, FPTs research

In 2020, Vietnam's upstream capacity still met only about 25% of the domestic demand for primary plastic materials, including the capacity of Hyosung refinery that came into operation during the year. Long Son

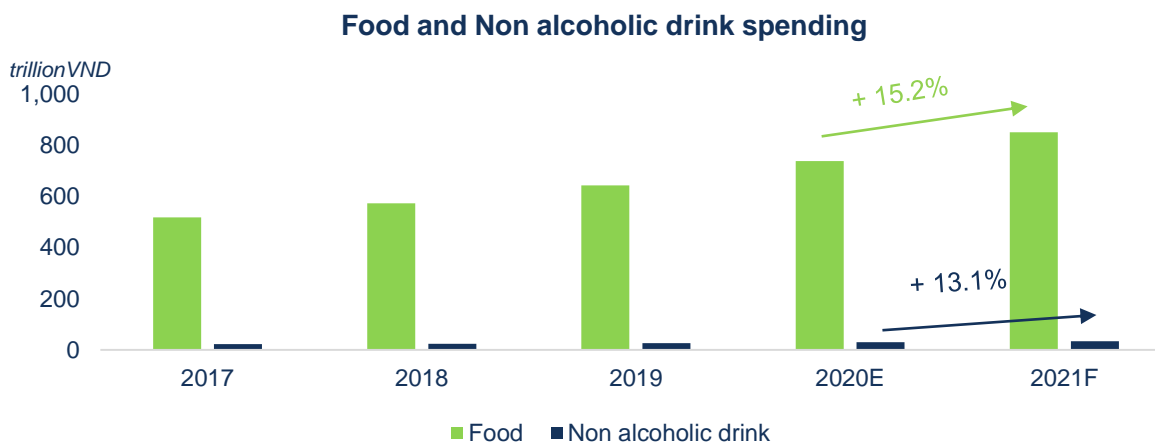
refinery with a total designed capacity of 1.41 million tons of raw materials (including PP, HDPE, LDPE) that was originally planned to operate by the end of 2020 and early 2021, has been delayed. In Q4 2020, the Long Son project had just completed about 50% of the construction workload. According to the new plan, the Long Son project will come into operation in 2022 and is expected to run at maximum designed capacity in 2023.

3. Plastic production and consumption are expected to grow by 5% in 2021.



Plastic production and consumption in 2021 are expected to reach 10.3 million tons, increasing 5% compared to 2020 with the main growth driver coming from two product segments: packaging and construction.

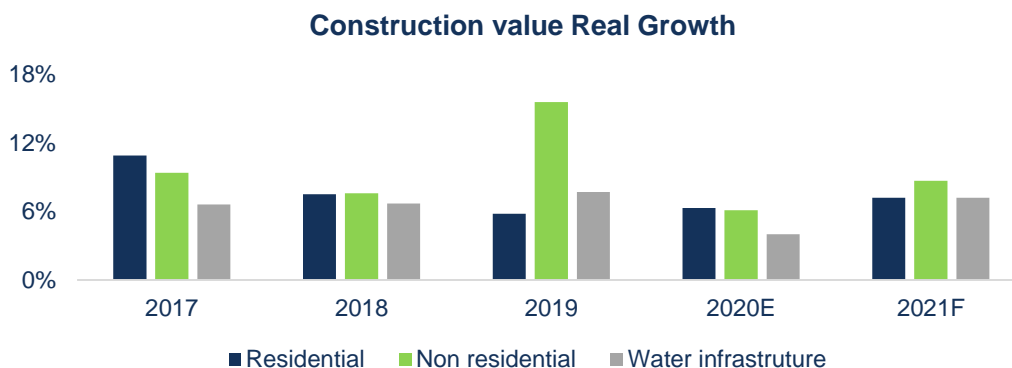
3.1. Packaging segment– Spending on food and non – alcoholic drink is the main driver



Source: Fitch Solutions

Facing the negative impact of the pandemic in early 2020, growth in household spending on most product segments has reduced except for the food and non-alcoholic beverage segment. These two are also the product group with the highest proportion, accounting for 21-23% of total Vietnamese annual household spending. The output of the packaging segment mainly serves the packaging phase in the manufacturing process of food and non-alcoholic beverage. Therefore, the growth of the packaging segment depends on the growth of these two categories. Spendings on food and non-alcoholic beverages in Vietnam are expected to grow at rates of 12% and 10.5%, respectively. This will be the main driver for packaging segment in 2021.

3.2. Construction segment – Construction value is expected to recover in 2021.



Source: Fitch Solutions

The output of construction segment mainly serves for housing construction, water supply and drainage infrastructure projects, so the output growth of the construction plastic segment depends on the growth of construction value. In 2020, due to the negative effects of the pandemic, real growth in construction value of non-residential housing and water infrastructure decreased to 6.1% and 4%, respectively. These are much lower than the 2019 growth rate (15.6% and 7.7%). According to Fitch Solutions' forecast, construction value real growth in 2021 will recover in all 3 segments of residential, non-residential and water infrastructure with value of 7.2%, 8.7% and 7.2%, respectively

III. COMPANY WATCHLIST

Stock Code	Market Cap (25/01/2021) Billion VND	Revenue 9M2020 Billion VND	Net Income 9M2020 Billion VND	Net Income Growth	Net Profit Margin	ROE 4 LTM	P/E
AAA	3,260	5,310	223	-49%	4.2%	8.49%	10.62x

- Company has the largest scale in the packaging segment in Vietnam with a total design capacity of 96 thousand tons per year. AAA's main market is the export market, in which the most important are the two markets, EU and Japan, accounting for 50% and 31% of total exported volume in 9M 2020.
- Plastic bag segment: In the third quarter of 2020, AAA had received the transfer of shares of An Vinh Plastic Packaging JSC from the parent company APH. After that, AAA had an additional segment of PP woven packaging. The plastic bag output of 9M2020 is estimated at 75,040 tons, increasing 7.1% yoy, in which the Jumbo woven packaging is about 1,890 tons. Revenue from plastic bag segment in 9M 2020 is VND 2,841 billion, decreasing 5% yoy because AAA had to adjust the price of finished bags due to lower plastic material prices in the first half of the year.
- Material trading segment: Trading revenue in the first 9 months of 2020 is about VND 2,354 billion, decreasing 35.8% yoy due to the sharp drop in plastic material prices in the first half of the year.
- Industrial real estate segment: This is the segment that the main profit of AAA came from in 2019. In 2020, AAA plans to transfer about 40% of the An Phat Complex area, but AAA's customers were not be able to come to Vietnam in the first half of the year due to travel restriction, imposed by the government. This caused the transaction to be delayed. In the fourth quarter of 2020, AAA is expected to recognize about 100 billion of profit after tax from the sale and lease of An Phat Complex.

- Profit after tax of 9 months of 2020 is about 223 billion, a sharp decrease of 49% compared to the same period in 2020, the main reason is that the profit from selling and leasing factories in An Phat Complex is not recorded. .

[\(AAA Updated Valuation Report\)](#)

NTP	4,300	3,394	342	+13.6%	10.1%	17.14%	9.07x
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- NTP is one of the two largest enterprises in the plastic pipe industry with a leading position in the Northern Vietnam. NTP is expected to continue to maintain its leading market share in the Northern market thanks to its large distribution system and diversified product structure.
- The revenue in 9M 2020 of NTP is VND 3,394 billion, increasing 0.17% compared to the same period. The revenue of NTP slowed down due to the impact of pandemic in the North where residential construction activities and other infrastructure project were interrupted.
- Profit after tax in 9M 2020 is VND 342 billion, increasing 13.6% yoy, because PVC prices in the first half of 2020 decreased by 15.4% yo. Gross profit margin 9 month of NTP also improved to 33%.
- Competition from new manufacturers, entering the Northern plastic pipe market, showed no signs of increasing in 2020 when HSG, one of the most prominent competitor, did not invest in expanding factory capacity in Ha Nam nor continued to increase the discount rate for the distributors.
- Plastic materials price and USD/VND exchange rate fluctuation will affect gross profit margin as NTP imports 100% of raw materials that accounts for a large proportion in production cost structure.

[\(NTP Updated Valuation Report\)](#)

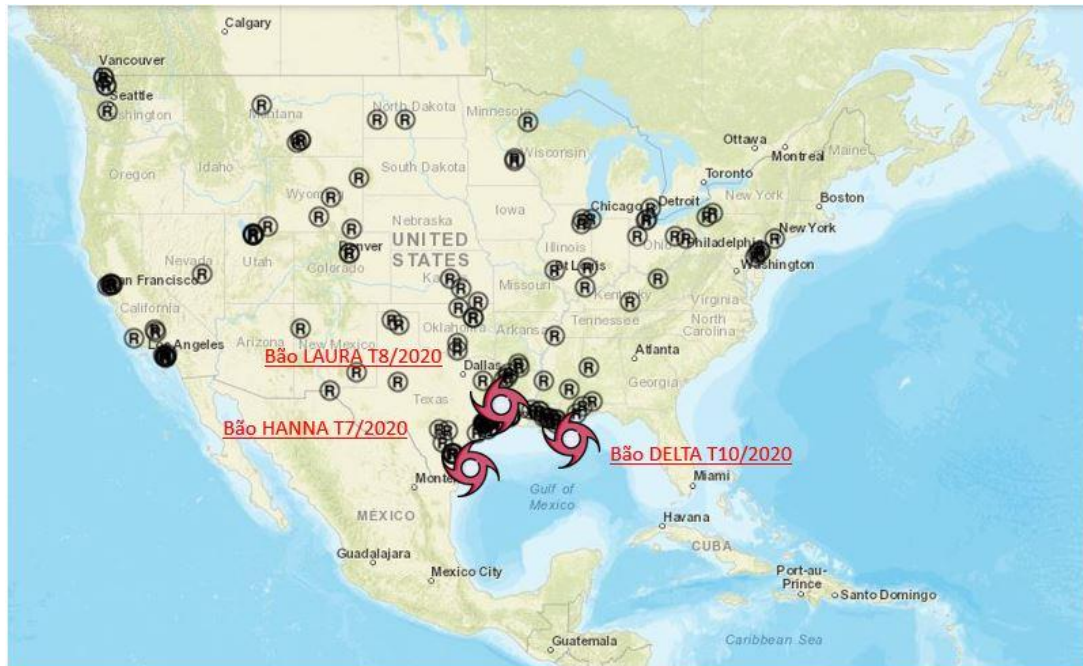
BMP	5,190	3,385	412 tỷ	+25.5%	12.2%	21.79%	7.56x
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- BMP is the other one of the two largest enterprises in the plastic pipe industry with a leading position in the Southern market. BMP is expected to continue to maintain its leading position in the Southern market thanks to its traditional brand name and large distribution network.
- The revenue in 9M 2020 of BMP is VND 3,385 billion, increasing 6.5% over the same period. Production output in 9 months of 2020 is estimated at 80,000 tons, increasing 5% over the same period.
- During the first half of the year, the impact of the epidemic affected residential construction demand. However, the prolonged drought in the Southern region in the first quarter of the year boosted the demand for plastic pipes to partially compensate the loss in demand for residential construction.
- After-tax profit of BMP in 9M 2020 is about VND 412 billion, increasing 25.5% yoy. The main reason is that PVC price in the first half of 2020 decreased by 15.4% yoy, helping gross profit margin of 9 months of BMP improved to 28.2%.
- Competition in the plastic pipe industry in the Southern market showed no signs of increasing when its main competitor, HSG, did not increase the discount rate for distributors.
- The risk of depending on the supplier still persists when BMP and TPC Vina - a supplier of 50% of PVC materials are both subsidiaries of SCG Thailand.

[\(BMP Updated Valuation Report\)](#)

IV. Appendix ([return](#))

Stroms and hurricanes directly affected the operation of refineries in Gulf of Mexico.



® refinery location

Source: FPTS Research

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