Vietnam Plastic Industry

The characteristic of plastic industry in Vietnam

1. One of priority industry of Vietnamese government
2. Strong growth thanks to ample demand from low consumption per capita
3. Importing 80% of raw material and 90% of machineries and equipment
4. Construction plastic is the highest growth amongst 5 segment
5. Competitive landscape: concentrated in top but defragmented at the bottom

Executive summary

Vietnam plastic industry started in 1960s, but it is still considered to be premature due to low consumption per capita and technology. Vietnam plastic industry has exhibited strong growth over the past decade with annual average growth rate of 16-18%, thanks to the strong demand from household and industrial usage (including: FMCG, technology, construction, etc.). Thus, plastic industry is one of the priorty industry of the government. However, we think that the high-tech products are more beneficary from the government's incentives than the rest segments.

Plastic industry is divided into five main segments: 1) packaging, 2) electrical & electronics, 3) building & construction, 4) automotive & transportation, 5) household, and others. The value of Vietnam plastic industry reached USD9 billion by 2015, of which packaging accounted for 39%, household products hold 32%, construction and technical accounted for 14% and 9%, respetively. However, the construction and technical plastic products are expected to have stronger growth due to higher demand of construction and hight-tech manuafacturing sectors. Moreover, the margins of construction and techincal products are also higher than packaging segment due to relatively lower competition.

There are approximately 2,000 companies in plastic industrues, 84% of which locates in Southern of Vietnam. Thus, the competitive landscape of the plastic industry is quite concentrated in the top, but highly defragmented at the bottom. That means only a small amount of leading companies (less than 5 companies) hold the majority of market share (more than 40%), meanwhile the rest market share is divided to thousand companies. Moreover, we think that the competition of plastic industry is quite high, in light of: 1) low eantry barrier; and 2) low diffirence of products so that consumer can easily shift between suppliers (except for high-tech and special plastic products).

The plastic industry in Vietnam heavily depends on imported raw materials. The local supplying raw material only meets around 20% demand, thus the key risks of local plastic company is not only raw material prices but also the fuctuation of exchange rate. However, in long-term Vietnam will develop petrochemical industry, which is expected to improve the supplying of plastic raw material.

Despite the severe competition from imported products, the plastic industry is expected to maintain stable growth rate at 7-8% p.a over the next 5 years. Thus, plastic companies has been became one of the most candidates for M&A from foreign companies (especially Thai companies), in order to take advantage of the strong distribution network and expectation of value chain of local companies.

Plastic: One of the top ten priority industry of Vietnamese government

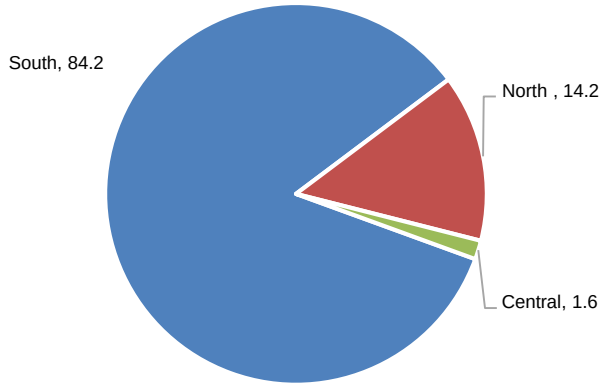
Vietnam plastic industry started in 1960s but it was not developed due to low capacity, outdated technology, low machinery efficiency and higher price compared to imported products. The plastic industry in Vietnam at that time mainly encompassed plastic assembling processes since all of the plastics were imported. Plastic products during this period came in simple designs and low in variety as well as quantity. From 1990s, the Vietnamese plastics manufacturing industry was able to notably penetrate the local consumption market and slowly reached out to potential regional and international markets as well.

The plastics manufacturing industry is one of the industries with the highest growth rate in Vietnam with an average constant growth rate of 16-18% p.a over the last ten years due to a strong surge in consumption both locally and internationally. Thus, it is among the top ten industries prioritized by the government for development planning due to its stable growth and reasonably strong performance in exports activities.

According to Decision 2992/QĐ-BCT about the targets in developing plastic industry to 2020 and towards 2030, this sector has received tax and capital incentives to improve development. Whereby:

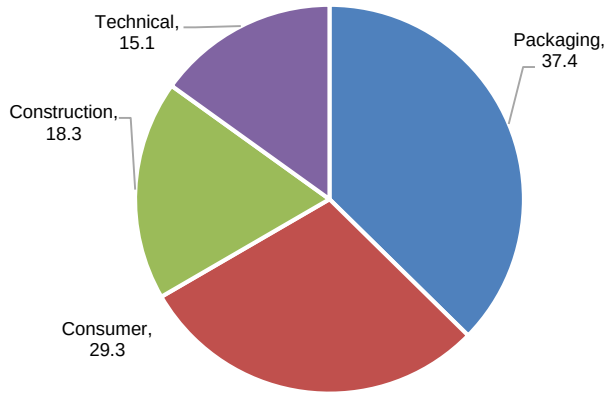
1) The projects to manufacture plastic equipment can borrow 85% of total investment capital with preferential interest rates.
2) The high-tech factory investing in areas with difficult socio-economic conditions has tax exemption in the first 4 years.
3) The production of plastic products will reach 12.5 million tons and export turnover will be USD4.3 bn in 2020, followed by a growth rate of 15% each year later.

Figure 1. Plastic business by geographic



Source: FPTS & Shinhan Investment Corp.

Figure 2. Plastic business by industry



Source: FPTS & Shinhan Investment Corp.

Construction and high-tech plastic are the highest growth potential amongst 5 segments

Plastic industry is divided into five main segments: 1) packaging, 2) electrical & electronics, 3) building & construction, 4) automotive & transportation, 5) household, and others, which primarily include textiles, agriculture, medicine, sports, wind turbine, and solar panel installations. In Vietnam, packaging has remained the largest proportion (38% in 2017).

There are 460 plastic packaging companies out of 2,000 plastic companies in Vietnam. However, there is a rising trend of limit usage of plastic bag in developed countries (i.e. EU, US, and Japan) to shift toward to biodegrade plastic bags. In 2022, packaging segment will still dominate the Vietnam plastic market.

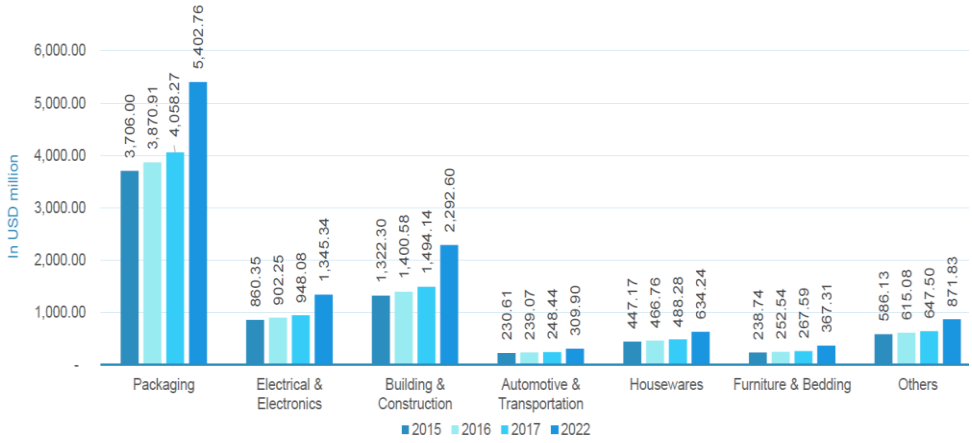
However, the construction segment is expected to witness the highest CAGR of 8.94% during 2017-

22 thanks to: 1) the strong development of real estate and construction industry; 2) weak competition from imported products; and 3) weak purchasing bargian of end-users (not easy to shift between suppliers).

Household plastic is also high competition as many manufacturers in this segment. Local players are focus in low and mid-income customer (accouting for 90% local companies), thus margins are usually low. Meanwhile, foreign players target high-income so that they have higher margins.

According to Mordor Intelligence Analysis, the Vietnamese plastic market is expected to value USD8,152.30 million in 2017 and the market is likely to reach USD 11,223.97 million by 2022, which exhibited a CAGR of 6.60% between 2017 and 2022.

Figure 1. Vietnam plastic market by application, 2015-2022

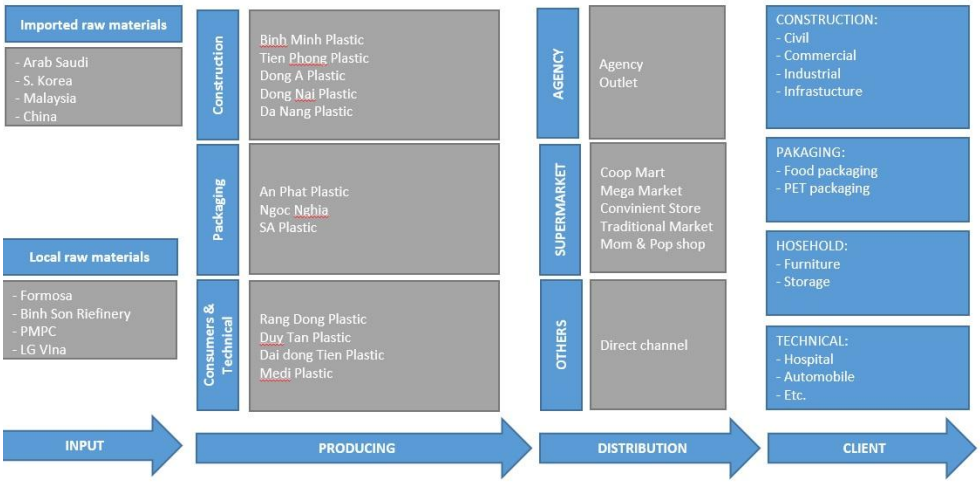


Source: Biinform, Shinhan Investment Corp.

Table 1. Productions list of each plastic segment

Segment	Sub-segment	Business cycle	Main product	Key players
Packaging	Food packaging	Staple	PP resin	Tetrapak, An Phat Plastic JSC
	Construction packaging	Cyclical	Cement bag	N/A
	PET packaging	Staple	PET bottle	Ngoc Nghia Plastic JSC
Consumer		Staple	Household products such as, furniture, cabinets, toys, dishes	Lock&Lock, Rang Dong Plastics
Construction		Durable	uPVC, HDPE, PPR pipes, profile bars, plastic doors and windows, panels, furniture used mainly for construction needs	Binh Minh Plastic JSC, Tien Phong Plastic JSC, Dong Nai Plastic JSC, Dong A Plastic JSC, Da Nang plastic JSC
Technical		Discretionary/ Durable	Assembling automobile, motorcycle, plastic electronic devices, etc.	N/A

Figure 2. Vietnam plastic value chain



Source: Biinform, Shinhan Investment Corp.

Table 2. Constitutive of plastic by production type

Product type	Constitutive (%)
Plastic pipes and completed plastic products	64
Plastic bottle	48
Plastic mold	47
Plastic packaging materials and plastic film	46
Other plastic products	35
Soap products	31
Small electrical application materials	26
Laminated plastic sheets (not including packaging)	25
Toys & dolls	25
Synthetic silk and fiber	22
Freezer & fridge	22
Panel/billboard	20

Source: America Chemistry Council (ACC)

Heavy dependent on import of raw materials

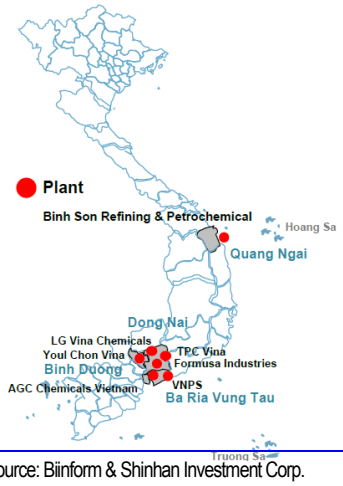
In Vietnam, plastic raw material accounts for approximately 80% and 70% of average cost of good sold of construction and pakaging plastic manufacturers, respectively. However, domestic supply plastic resin can meet only 13% of the total domestic demand in 2017. Therefore, to fulfill this demand for raw materials in the fast growing sector, Vietnam needs to increase the import of raw materials and auxiliary chemicals. According to StoxPlus, total annual domestic resin demand is around 4.54 million tons, while domestic supply only satisfies 626,000 tons. 60% of import raw material are PE, PP and PET, main input for plastic packaging. And PVC account for 6% of imported raw materials are used for construction plastic manuafacturing.

The robust growth of end-user segments in Vietnam and the increasing demand for Vietnamese plastic products in the global market are continuously driving the demand for PP, PE, and PVC resins

in the country. Scarcity of locally produced raw material and local producers is a major barrier for the stable growth and development of the Vietnamese plastic industry in the longterm.

The robust growth of demand for Vietnamese plastic products are continuously driving the demand for PP, PE, and PVC resins in the country. Thus, Vietnam petrochemical master plan projects to push the increase in downstream oil activities to meet plastic raw material demand. Taking into account of all planned projects, domestic plastic resin production would reach 2.6 million tons, meeting 26% of domestic demand in 2023 (compared to 13% in 2017). However, the domesticalization rate of plastic industry is still low and heavy dependency on import of raw materials.

Figure 2. Existing plastic raw material manufacturers in Vietnam



	ITEM	COMPANY	CAPACITY (tons/year)
RESIN	PP	Binh Son Refinery	150,000
	PVC	AGC Chemicals Vietnam	200,000
	PVC	TPC Plastic & Chemical	190,000
	PS	Vietnam Polystyrene	48,000
	EPS	Vietnam Polystyrene	38,000
		PLASTIC RESIN	**626,000**
FILM	PET	Hung Nghiep Formosa	145,000
	BOPP	Hung Nghiep Formosa	60,000
	BOPP	Euro Film Corporation	30,000
	BOPP	Youl Chon Vina Plastic	12,000
	DOP	LG Vina Chemical	40,000
		PLASTIC FILM	**287,000**

Source: Biinform & Shinhan Investment Corp.

Table 2. Upcoming projects in Vietnam Petrochemical

Project	Capacity (tons/year)	Product	Status
Existing Domestic plastic resin capacity	**630,000**	PP, PVC, PS, EPS	
Upcoming projects	**3,800,000**	PP, HDPE, LLDPE	
Nghi Son Refinery & Petrochemical	400,000	PP	Launch in 2018
Long Son	1,600,000	PP, HDPE, LLDPE	Launch in 2021
Hyosung	300,000	PP	Approval pending
Vung Ro Petroleum	700,000	PP	Delayed
PTT-Aramco	800,000	PP	Delayed

Source: StoxPlus & Shinhan Investment Corp.

Moreover, Vietnam also imports 90% of machineries and equipment for plastic manufacturing and most of them are imported from Asian countries (China: 30%, Taiwan: 16%, S. Korea: 14%). Most of machineries from China and Taiwan are quite low-tech and outdated from German or Italian ones. The productivity of many plastic manuafacturers are quite low or low margins products. Thus, we think that many of local player has low competitive advantage against foreign players.

Raw material over-dependent on oil price fluctuations

According to Plastech Vietnam 2018, raw materials accounted more than 70% total plastic production cost. Plastic raw materials (including PP, PE, PVC, etc.) are mostly made from oil and its relatively products. Hence, PP and PE prices usually have high correlation with oil price. However, PVC has relatively lower correlation with crude oil prices (as 60% constitution of PVC is Cloride, while crude oil

accounts only 0.5%). Thus, PVC prices also 20-30% lower than other main plastic materials (PP, PC, HDPE, LDPE, etc.), which are craked near 100% from oil.

In the period 2015-2016, all plastic manufacturers had benefited from the sharply decrease of raw plastic material cost thank to the downtrend of oil price. Their profit margin had improved significantly. However, material cost is forecasted to climb to USD60-80/bbl. in this year and increase to USD90/bbl. in 1H2019, citied from Merril Lynch. The increase forecast due to the impact of tight crude oil supply related to US sanctions for Iran's major oil exporter. We forecast plastic producers' COGS will increase in coming time.

Figure 3. Cost structure of packaging cost

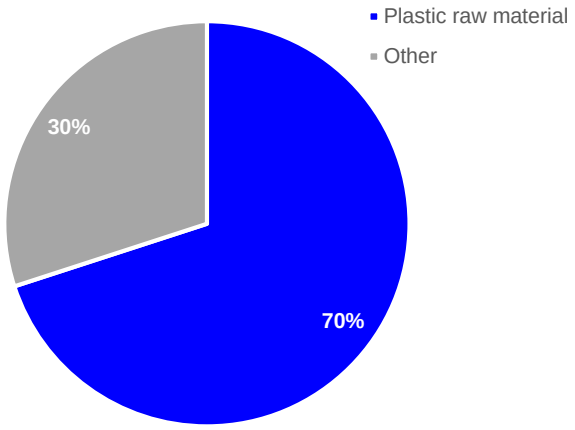
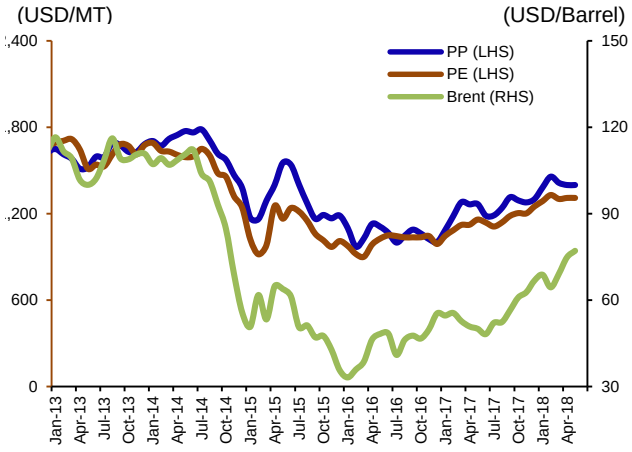


Figure 4. Brent price and PP- PE price



Source: Plastech Vietnam, Bloomberg & Shinhan Investment Corp.

Foreign exchange risk on plastic manufacturers

As more than 80% raw material input of Vietnam plastic are imported, and are USD-denominated. Therefore, the change USD/VND exchange rate will impact significantly on operation of domestic plastic companies. State Bank of Vietnam projects to decrease VND value 2%-5% annually that promises Vietnam's export competitiveness in global market. We assess foreign exchange risk impacts nagatively to plastic industry.

Figure 5. USD/VND exchange, 2011-2018



Source: Bloomberg & Shinhan Investment Corp.

Increase tax tariff on plastic raw material

Plastic industry will been got the negative impacts from new Foreign Trade Agreements (FTAs) and change of import tax. According to StoxPlus's survey, the experts forecast a decrease by 1.0% in net profit margin of Vietnam plastic firms due to an increase by 3% in import tariff imposed on PP from 1st Jan 2017 onward, after Circular 16/2016/TT-BTC on import tariff expired.

Although the import raw materials from countries signing FTAs will be imposed 0% (ex. Korea, Asian, and China), their import price is higher significantly than Saudi Arabic. Therefore, we estimate the net profit margin will decrease less than 1.0%.

Saudi Arabic, Korea and Thailand remained the main countries exported plastic resin into Vietnam. However, thanks to favor import tariff rate from Vietnam Korean and ASEAN FTAs which creates competitive advantages for suppliers from these countries, Korean and Thai suppliers are gaining their foothold in Vietnam plastic sector in terms of supply import raw materials.

Figure 6. Impacts from change of import tax

[Import Tariff for Plastic Resin – to 2016]

PRODUCT	Favor Tax Rate	ASEAN	FTAs Vietnam -Korea	ASEAN-China
PE	0%	0%	0%	0%
PP	0%	0%	0%	0%
PVC	5%	5%	5%	20%
PS	5%	0%	0%	0%
Effective date	6th Mar to 31st Dec 2016			

[Import Tariff for Plastic Resin – from 2017]

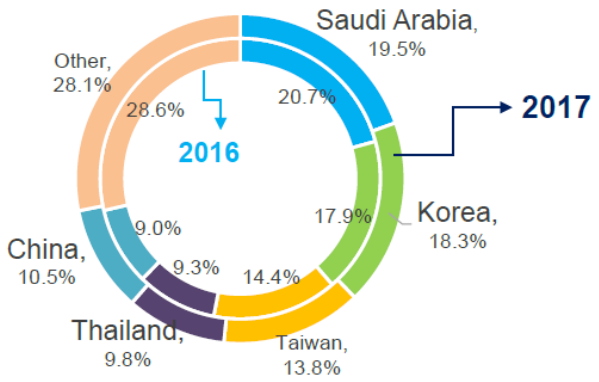
PRODUCT	Favor Tax Rate	ASEAN	FTAs Vietnam -Korea	ASEAN-China
PE	0%	0%	0%	0%
PP	3%	0%	0%	0%
PVC	5%	5%	5%	20%
PS	5%	0%	0%	0%
Effective date	1st Jan 2017			

NEGATIVE IMPACT TO PLASTIC FIRMS!

- Import tariff imposed on PP resin increased from 0% to 3% after Circular 16/2016/TT-BTC on import tariff expired

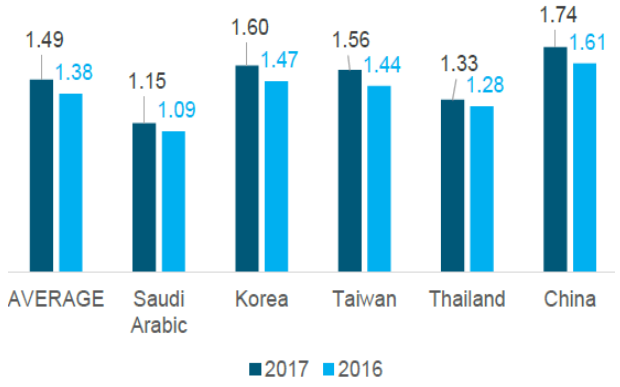
Source: StoxPlus & Shinhan Investment Corp.

Figure 7. Top Exporters of Plastic Resin Vol to Vietnam, 2016 vs.



Source: StoxPlus & Shinhan Investment Corp.

Figure 8. Average price/kg of Top exporter plastic resin to



Source: StoxPlus & Shinhan Investment Corp.

Competitive landscape: concentrated in top but defragmented at the bottom

Concentrated in the top but higly defragmented at the bottom

Plastic packing industry is low-tech industry with the simple production process and there are no limited of law for this sector. Therefore, it is easy for new peers to participate into plastic industry. According to Vietnam Plastic Association, there are more than 2,000 plastic companies operating in Vietnam (concentrate 84% in Ho Chi Minh City). Most of them are small and medium-sized enterprises with low financial position and low capacity. Thus, the competition of plastic industry are relatitively high, especially plastic packaging should have higher competition than others.

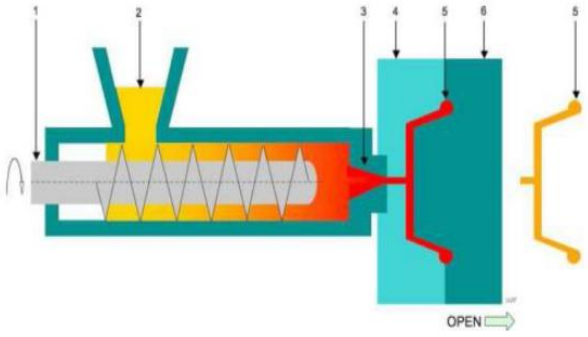
We think that the competitive landscape of the plastic industry is quite concentrated in the top, but highly defragmented at the bottom. That means only a small amount of leading companies (less than 5 companies) hold the majority of market share (more than 40%), meanwhile the rest market share is divided to thousand companies.

Weak industry entry barrier

We think that plastic industry has low entry barrier, thus new players are easy to penertrate the market as: 1) low technology and simple products; 2) low capex and realively low margins; and 3) easily to find alternative products. The capex for a plastic factory is not relative high (i.e. Binh Minh Plastic costed VND340 billion to build construction plastic in Long An with 15,000 tons of product / year in 2015).

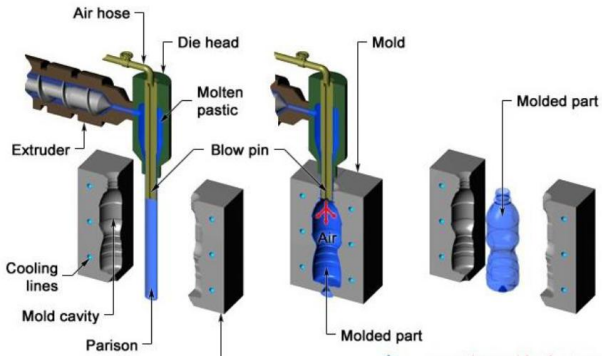
However, we believe that construction and technical plastic production has relatively higher entry barrier in terms of brand of product and economies of scale. Moreover, these segments have not alternative products and high brand loyality. Thus, construction plastic is one of the most attractive candidates for M&A in plastic industry.

Figure 9. Injection Molding production is simple tech



Source: FPTS & Shinhan Investment Corp.

Figure 10. Blow Molding production is simple tech



Source: FPTS & Shinhan Investment Corp.

M&A trend by foreign investors

The Vietnamese plastic industry, owing to its strong growth, is attracting the attention of foreign investors. Some corporations from Thailand, Japan and South Korea have had acquisitions with domestic firms. Some dominant acquisitions in recent times are as below:

Figure 11. M&A deal in recently year

ACQUIRER	COUNTRY	TARGET COMPANY	DEAL VALUE	YEAR
MeiwaPax Group	Japan	Saigon Trading and Packaging (Sapaco)	93% for US$16.5 mn	2014
Oji Holding Corporation	Japan	United Packaging	US$4.00 - 7.00mn	2013
Siam Cement Group	Thailand	Tin Thanh Packaging (Batico)	80% for US$44.5 mn	2015
Dongwon Systems Corp	South Korea	Tan Tien Packaging and Minh Viet Packaging	US$97.08 mn for Tan Tien and US$21 mn for 100% Minh Viet	2016

Source: StoxPlus & Shinhan Investment Corp.

In April 2018, Nawaplastic Industry Co., Ltd., a subsidiary of Thailand's SCG, has completed the purchase of an additional 185,970 shares in Binh Minh Plastics JSC (BMP), taking the Thai investor closer to dominating BMP. After the deal, Nawaplastic increased its holdings in BMP to from 19.89 to 50.12 per cent, offering the group the opportunities to expand its share and presence in the country.

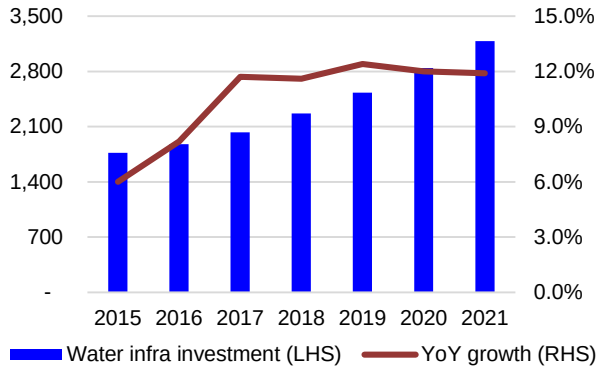
We expect FDI will continue to invest in Vietnam plastic, as they are planning to take advantage of domestic resources to ensure reduced operational cost. This, in turn, will aid the company in sufficing domestic demand.

Infrastructure plastic

Water infrastructure is forecasted to grow stably, represent average CAGR 11.9% in period 2017-2021, following compiled data by BMI Research. This growth is supported by the increase demand of using comerce water and urbanization trend in Vietnam. Vietnam water infrastructure has just accounted 2.5% in total infrastructure value and having poor water network. Currently, 86% of rural residents have approach to clean water. Vietnam government projects to increase to 95% rural residents using clean water in period 2016-2020.

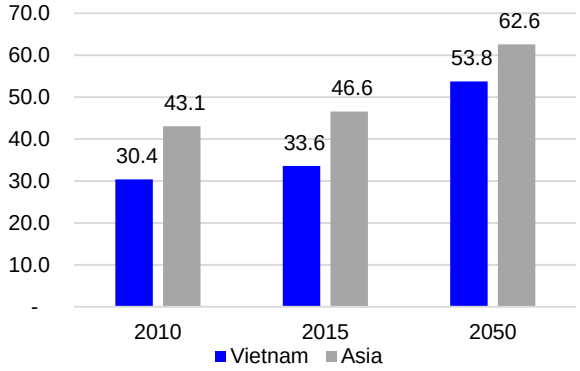
In addition, urbanization rate in Vietnam is estimated to achieve to 53% in 2050 from 33% in 2015. In line with urbanization trends, water infrastructure have to build rapidly in order to meet using water demand from new urban residents. All of above conditions guarantee a stable demand growth for plastic manufacturers.

Figure 12. Vietnam plastic industry value in 2016 (VND bn)



Source: BMI, Shinhan Investment Corp.

Figure 13. Urbanization rate in Vietnam and Asia (%)



Source: BMI, Shinhan Investment Corp.