VIETNAM PLASTIC PIPE SECTOR

INITIATION REPORT

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- Construction plastic is the highest growth amongst five segments.
- An oligopoly market.
- Attracting M&A deals
- Heavy dependent on import of raw materials.

Executive summary

Plastic pipe business is a part of building & construction plastic sector – a sub-sector of plastic industry. The main products of Vietnam plastic pipe industry are uPVC, HDPE, PPR pipes or profile bars serve for construction and infrastructure (supplying and draining water system). Therefore, the growth of the industry strongly correlates with the development of construction, real estate, and infrastructure industries. Despite of plastic packaging accounts for the largest weight in the industry (37.4%), plastic building & construction products is expected to show a strongest growth with the highest CAGR of 8.94% during 2017-22.

Industry competitive

There are 200 companies, which are operating in building & construction plastic industry. The competitive in the industry is not too severe, but mainly concentrating on the leading plastic pipe producers likes Binh Minh Plastic JSC (market share: 28%), Tien Phong Plastic JSC (26%) and Hoa Sen Group (10%). Therefore, it is considered as an oligopoly market. Or the competitive landscape of the industry is quite concentrated in the top, but highly defragmented at the bottom.

As a result, there must be some barriers to entry to enable firms to gain a significant market share, including: 1) low technology and simple products; and 2) low capex and realively low margins. However, compared to the other plastic sectors, construction production has relatively higher entry barrier in terms of brand of product and economies of scale. Thanks to the strong potential growth, construction plastic is one of the most attractive targets for M&A in plastic industry from foreign players.

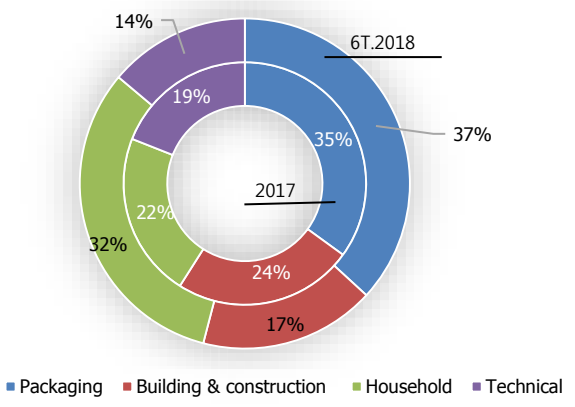
Disadvantages of the industry

The building & construction plastic industry as well as overall plastic industry in Vietnam - heavily depends on imported raw materials. The local supplying raw material only meets around 20%-30% of total domestic demand, thus the key risk of local plastic companies is not only raw material prices but also the fluctuation of exchange rate. However, in long-term Vietnam will develop petrochemical industry, which is expected to improve the supplying of plastic raw material.

Vietnam Plastic Pipe Industry Overview: the highest growth potential amongst five segments

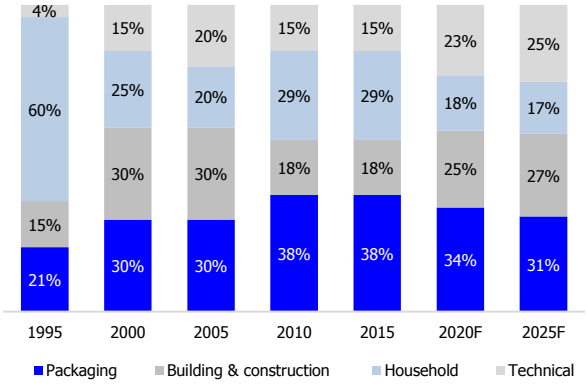
Plastic pipe business is a part of building & construction plastic sector – a sub-sector of plastic industry which includes 1) packaging, 2) electrical & electronics, 3) building & construction (plastic pipe), 4) technical, 5) household and others, which primarily include textiles, agriculture, medicine, sports, wind turbine, and solar panel installations. Despite of plastic packaging takes the largest market share of the structure of the industry (37.4%), plastic building & construction products is expected to show a strongest growth with the highest CAGR of 8.94% during 2017-22, mentioned by Ministry of Construction (MoC). In fact, in 2017, the two sectors presented the highest growth rate year-over-year are construction plastic and household plastic with 60% and 50%, respectively.

Figure 1. Plastic business by sub-sector (2017- 6T.2018)



Source: Ministry of Construction

Figure 2. Plastic industry development plan by government



Source: FPTS & Shinhan Investment Corp.

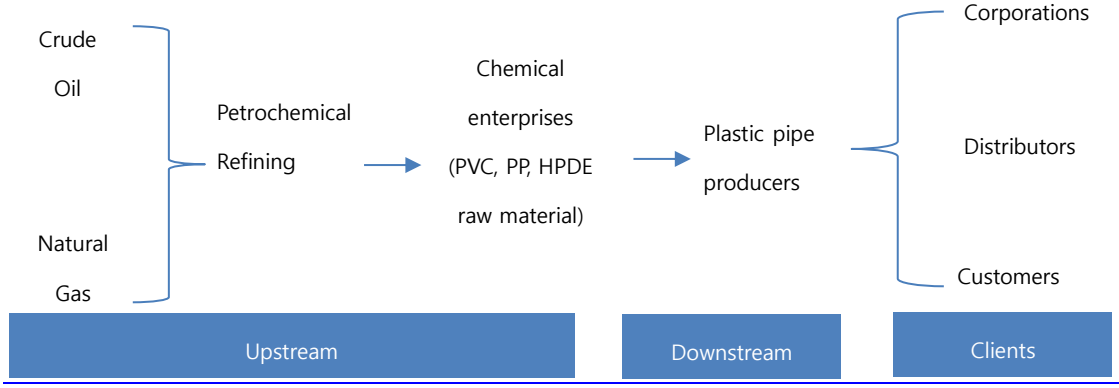
The main products of Vietnam plastic pipe industry are uPVC, HDPE, PPR pipes or profile bars serve for construction and infrastructure (supplying and draining water system). Therefore, the growth of the industry strongly correlates with the development of construction, real estate and infrastructure industries.

Table 1. Productions list of building & construction plastic industry

Segment	Sub-segment	Business cycle	Main product	Key players
Building & Construction	Construction Materials	Cyclical	**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 A Plastic JSC, Da Nang Plastic, **Hoa Sen Group**
	Water infrastructure	Staple		Dong Nai Plastic JSC

The value chain of plastic pipe industry includes two main parts: upstream and downstream. The upstream is petrochemical refining and chemical enterprises. The downstream is plastic pipe producers.

Figure 3. Vietnam plastic pipe value chain

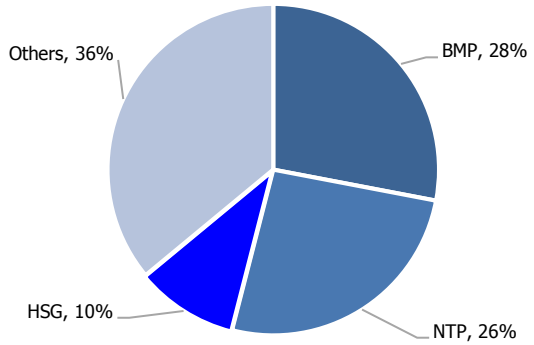


Source: Shinhan Investment Corp.

The competitive of the industry: Staying at the average level

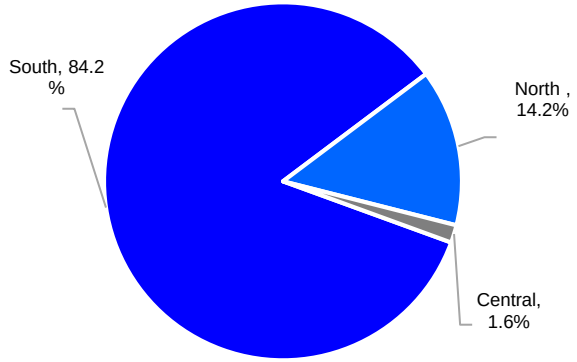
The total number of producers doing building & construction plastic products in Vietnam is 200 companies, accounting for 13.3% of total number of plastic companies. Of which, domestic enterprises still dominates the market with the market shares of 85%. Relying on this, the competitive in the industry is not high, mainly concentrating on the leading plastic pipe producers likes Binh Minh Plastic Jsc (28%), Tien Phong Plastic Jsc (26%) and Hoa Sen Group (10%). Almost foreign plastic pipe producers in Vietnam come from China and Europe. Therefore, it is considered as an oligopoly market. To clarify, 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 hold the majority of market share (more than 50%), meanwhile the rest market share is divided to thousand companies.

Figure 4. Plastic pipe market share breakdown (2017)



Source: FPTS, Shinhan Investment Corp.

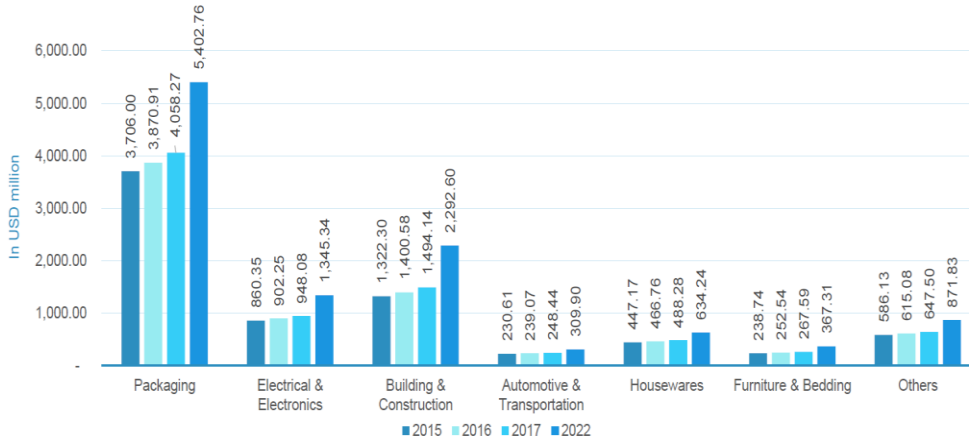
Figure 5. Plastic business by geographic (2017)



Source: FPTS, Shinhan Investment Corp.

As a result, there must be some barriers to entry to enable firms to gain a significant market share. For example, 1) low technology and simple products; 2) low CAPEX and realively low margins. However, compared to the other plastic sectors, 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 loyalty. And the growing motivations for the industry are : 1) the strong development of real estate and construction industry; 2) weak competition from imported products; and 3) weak purchasing bargain of end-users (not easy to shift between suppliers). Thus, construction plastic is one of the most attractive candidates for M&A in plastic industry.

Figure 6. Vietnam plastic market by application, 2015-2022

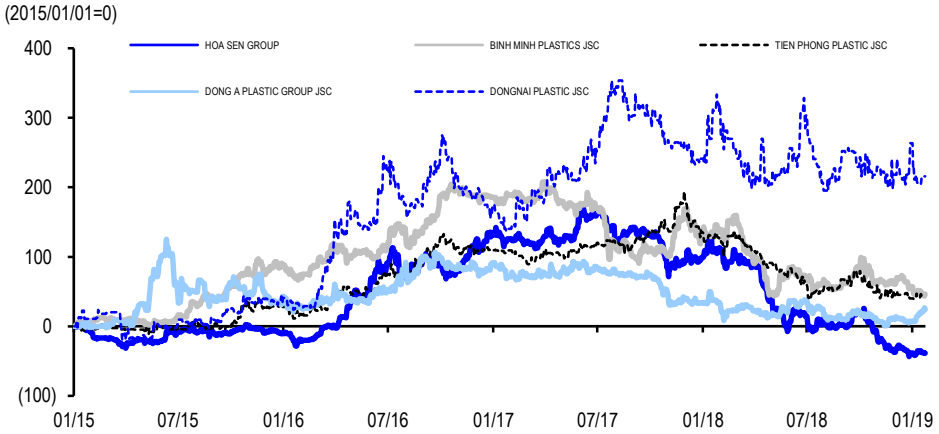


Source: Mordor Intelligence Analysis, Shinhan Investment Corp.

Table 2. Financial Ratios of Leading Plastic Pipe Producers (2018FY)

	HOA SEN GROUP	BINH MINH PLASTICS JSC	TIEN PHONG PLASTIC JSC	DONG A PLASTIC GROUP JSC	DONGNAI PLASTIC JSC
Sales (VND bn)	34,441	3,825	4,520	1,646	1,505
OP (VND bn)	1,266	663	450	102	90
OPM (%)	*3.7*	*17.3*	*10.0*	*6.2*	*6.0*
NP (VND bn)	409	465	332	59	83
NPM (%)	*1.2*	*12.1*	*7.3*	*3.6*	*5.5*
PER (x)	12.4	15.1	10.9	7.2	10.8
PBR (x)	1.0	2.9	1.6	0.7	1.5
ROE (%)	7.7	19.6	15.3	10.4	14.9
EV/EBITDA (x)	8.2	8.1	9.7	6.8	11.7

Figure 7. Stock Price Performance



Source: Bloomberg, Shinhan Investment Corp.

M&A trend by foreign investors

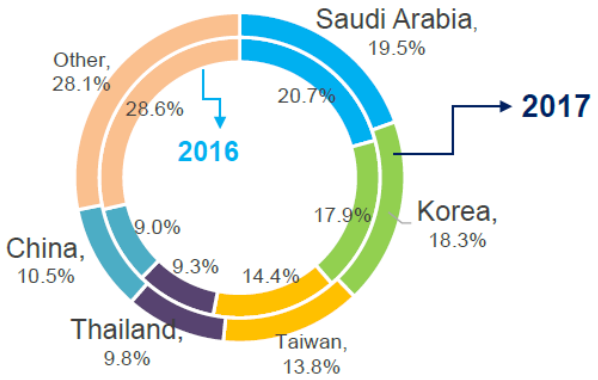
The Vietnamese plastic industry, owing to its strong growth, is attracting the attention of foreign investors. Some corporations from Thailand, Japan and South Korea have had acquisitions with domestic firms. In April 2018, Nawaplastic Industry Co., Ltd., a subsidiary of Thailand's SCG, has completed purchasing 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 50.12% from 19.89% 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 improve the operating of domestic companies.

Heavy dependent on import of raw materials

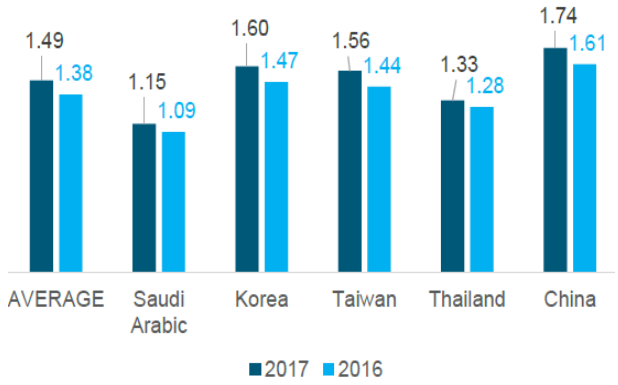
In Vietnam, plastic raw material accounts for approximately 80% of average cost of good sold of construction plastic manufacturers. However, domestic supply plastic resin could meet only 13% of the total domestic demand in 2017. To fulfill this demand for raw materials in the fastgrowing sector, Vietnam 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. PVC account for 6% of imported raw materials are used for construction plastic manufacturing, mainly imported from Taiwan.

Figure 8. Top Exporters of Plastic Resin Vol to Vietnam, 2016 vs. 2017



Source: StoxPlus & Shinhan Investment Corp.

Figure 9. Average price/kg of Top exporter plastic resin to Vietnam, 2017

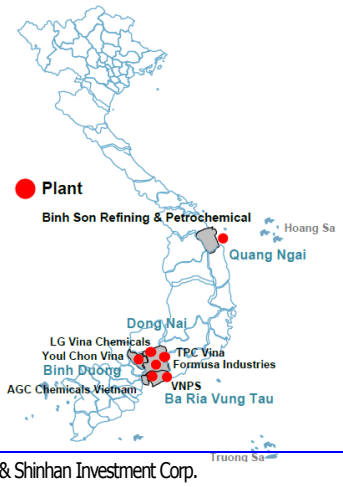


Source: StoxPlus & Shinhan Investment Corp.

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 local raw material and producers are major barriers constraint for the stable growth and development of the Vietnamese plastic industry in the longterm.

Thus, the Vietnam petrochemical master plan projects push the increase in downstream oil activities in order 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 domesticization rate of plastic industry would still low and heavy dependency on import of raw materials.

Figure 10. 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 3. Upcoming projects in Vietnam Petrochemical

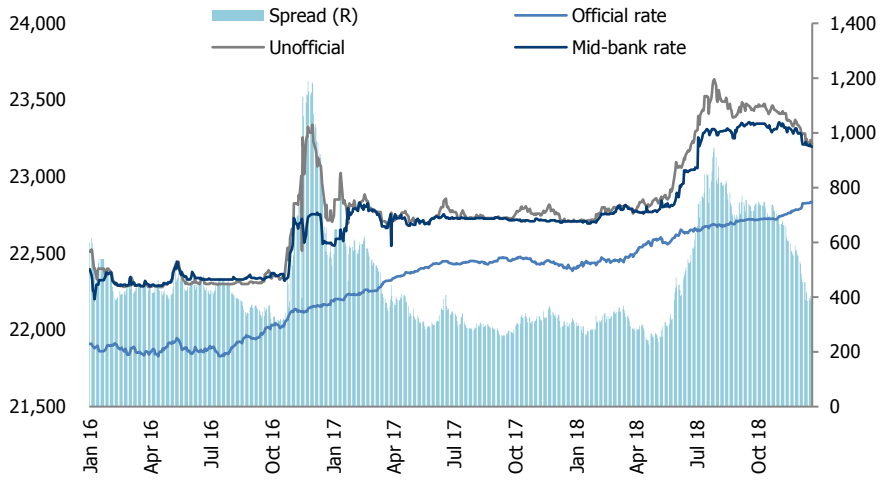
Project	Capacity (tons/year)	Product	Status
Existing domestic plastic resin capacity	**630,000**	PP, PVC, PS, EPS	
Upcoming projects	**3,800,000**	PP, HDPE, LLDPE	
Nghi Son Refinery & Petrochemical	400,000	PP	Launch in 2018
Long Son	1,600,000	PP, HDPE, LLDPE	Launch in 2021
Hyosung	300,000	PP	Approval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

Source: StoxPlus & Shinhan Investment Corp.

Foreign exchange risk on plastic manufacturers

Vietnam imports more than 80% of plastic resin, which are USD-denominated. Therefore, the fluctuation of USD/VND exchange rate will impact significantly on earning result of domestic plastic companies. State Bank of Vietnam targets to devaluate Vietnam dong by 2%-5% annually that promises Vietnam's export competitiveness in global market.

Figure 11. Vietnam dong / US dollar



Source: Biinform & Shinhan Investment Corp.

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