

Plastic Sector in India



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Political Map of India



India is a federal union comprising twenty-nine states and seven union territories. The states and union territories are further subdivided into districts and further into smaller administrative divisions.

List of Abbreviations

Acronym	Description
ABS	Acrylonitrile butadiene styrene
CAGR	Compound Annual Growth Rate
CBEC	Central Board of Excise & Customs
CBEC	Central Board of Excise and Customs
CIF	Cost, Insurance and Freight
CIPET	Central Institute of Plastics Engineering & Technology
CPVC	Chlorinated Polyvinyl Chloride
DGFT	Director General of Foreign Trade
EPS	Expanded polystyrene
EVA	Ethylene-vinyl acetate
EXIM	India's Export Import
FDI	Foreign Direct Investment
FMCG	Fast Moving Consumer Goods
FY	Financial Year or Fiscal year
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GAIL	Gas Authority of India Limited
GOI	Government of India
GPPS	Polystyrene (General Purpose)
HDPE	High-density polyethylene
HIPS	Polystyrene (High Impact)
HS	Harmonized System
HYPOL	Hydrophilic Prepolymers/polymers
IEC	Import Export Code
INR	Indian National Rupee
ITC	Indian Trade Classification
LDPE	Low-density polyethylene
LLDPE	Linear low-density polyethylene
MMT	Million Metric Tonne
MoEF	Ministry of Environment & Forest
MTPA	Million Tonnes per Annum
OGL	Open General Licence

PCPIRs	Petroleum, Chemical and Petrochemicals Investment Regions
PE	Polyethylene
PET	Polyethylene terephthalate
PP	Polypropylene
PS	Polystyrene
PVC	Polyvinyl chloride
SAN	Styrene acrylonitrile resin
UAE	United Arab Emirates
UK	United Kingdom
USA	United States of America
USD	United States Dollar

Currency Conversion Rate: 1 USD= 65 INR

Executive Summary

The primary objective of the report is to provide an overview of the Indian Plastic sector. The research study is geared to highlight opportunities for Brazilian companies looking to enter India as a target market.

The report highlights the following key points:

- *Market size estimation and growth rate*
- *Key sub-segments of the sector*
- *Key drivers of the industry*
- *Competitive landscape in the industry*
- *Export import trends in the sector*
- *Brief Regulatory Framework*
- *Opportunity assessment for Brazilian companies in India*

The Per Capita Consumption of plastics in India is estimated at 11Kg. The plastic industry comprises two broad categories-upstream i.e. polymer manufacturing and downstream i.e. plastic processing.

The polymer manufacturing segment in India consists of a limited number of domestic oil refineries and standalone petrochemical companies. At the same time, the pipeline infrastructure is minimal, so intermediates plants depend entirely on the host cracker to provide feedstocks. The demand for polymer products such as HDPE (High-density polyethylene), LDPE (Low-density polyethylene) and PVC (Polyvinyl chloride) is growing in India but, the growth rate in the domestic manufacturing of polymers is not sufficient to match the demand. Hence, India imports a considerable quantity of polymers to match the growing demand.

The plastic processing sector in India is primarily dominated by Indian companies. The small/medium scale enterprises hold nearly 85% of the market. This industry has a significant proportion of unorganised players. However, in the organised segment, there are some dominant players that hold a significant market share in their respective categories. However, the dependence of imports in this segment is comparatively less as compared to the upstream segment.

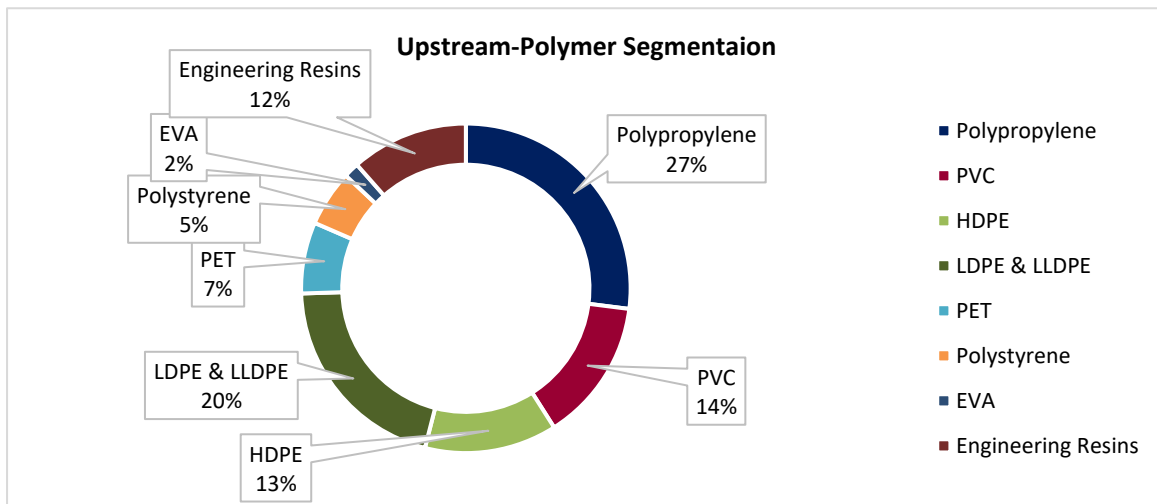
The Indian Government now permits upto 100% FDI (Foreign Direct Investment) in this sector, subject to certain conditions to encourage foreign companies to set up manufacturing facilities in India. Up until now, the foreign companies in the plastics segment-both upstream and downstream, primarily exported their products to India.

Understanding of Brazilian Plastic Industry

Brazil is the 7th largest consumer of plastics in the world. The Brazilian Plastic industry converts approximately 6.7 million tonnes tons of thermoplastic resins per year.

The Plastic Industry in Brazil employs more than 350,000 employees. Being South America’s largest oil producer, there is a huge potential for the Plastic Industry to grow in Brazil.

The industry can be bifurcated into two segments i.e. Upstream and Downstream. The Upstream industry comprising of polymer manufacturing in Brazil offers products including PVC, LLDPE (Linear Low-density Polyethylene) & HDPE, Polypropylene, Polystyrene, PET (Polyethylene terephthalate), SAN (Styrene Acrylonitrile Resin), ABS (Acrylonitrile Butadiene Styrene) and others. The demand for the different types of Polymer manufactured can be categorized as follows:



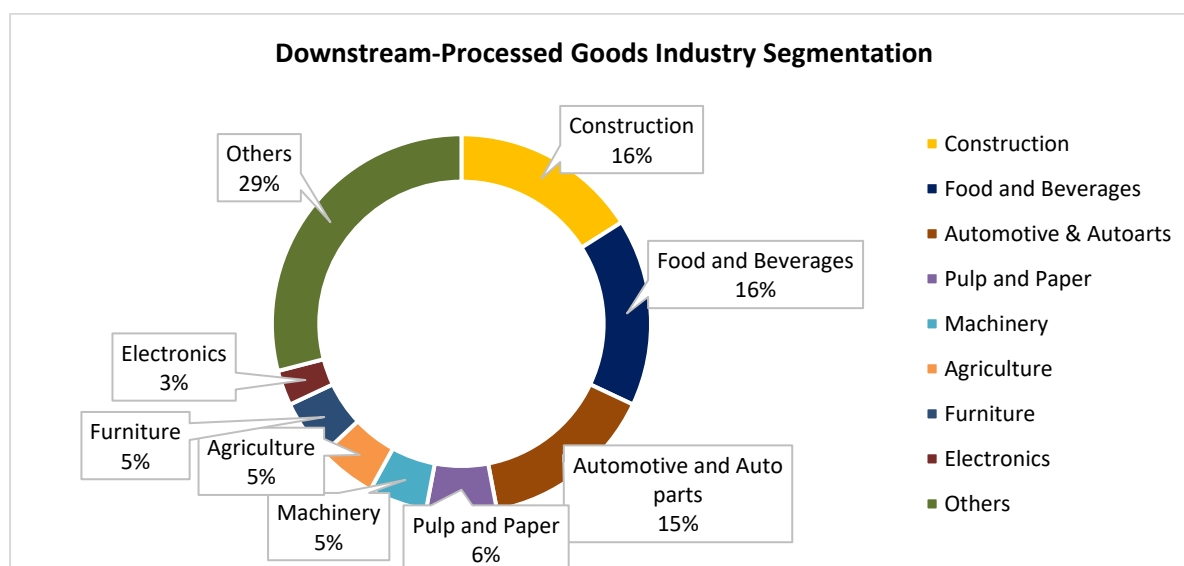
Source: brazilianplastics.com

The Brazilian polymer industry is dominated by a large national group, which is Braskem. Apart from this, global manufacturers like: Unigel, Dow, SABIC, BASF, Solvay, Rhodia also have an established presence in Brazil.

- No. of Plastic Processors = 11,500
- Large Companies = 700
- Majority Small/Medium Enterprises

The Downstream manufacturing sector i.e. plastic processing sector in Brazil offers a wide range of products catering to various industries such as Automotive, Electrical, Packaging, Medical, Household Appliances, Agricultural and Construction industries.

The consumption pattern of plastic products across industry wise in Brazil is illustrated below:



Source: brazilianplastics.com

The Plastic Processing Manufacturers in Brazil broadly use six type of processes to manufacture the processed goods from the raw materials.

Process	% Usage
Extrusion	57.7%
Injection Moulding	32.4%
Extrusion – Blow Moulding	5.1%
Vacuum Forming	1.9%
Rotational Moulding	1.3%
Foaming Processes	1.5%

The Brazilian Plastic Industry witnessed a reduction in imports of 20% for polymers and 17% for processed goods in 2015. The Brazilian Plastic Industry primarily exports different types of polymers. The export trend highlights a similar pattern of exports in 2015 as compared to the 2014 & 2013. Downstream products such as Tubes, Pipes, Sheets are also exported and show a consistent export pattern.

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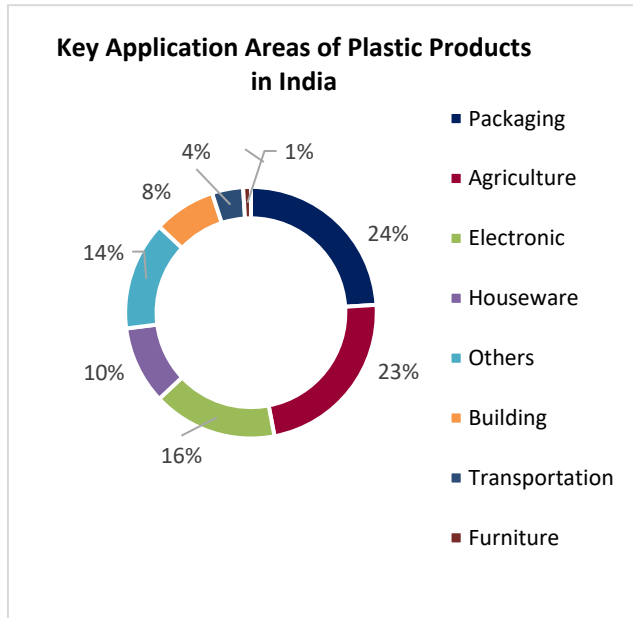
1.0 Market Overview of Indian Plastic Industry

1.0 Market Overview of Indian Plastic Industry

The Per Capita Consumption of plastics in India is estimated at 11Kg. The plastic industry in India is closely intertwined with the petrochemical industry since polymer is a key raw material for plastics. Hence, the value chain of plastic industry comprises both upstream and downstream activities

- **Upstream:** This segment entails the manufacturing of polymers i.e. primarily undertaken by petrochemical companies in India.
- **Downstream:** This involves the conversion of polymers into plastic products that is undertaken by Plastic processing India. The downstream manufacturers cater to the demands of multiple industries across the country with industries such as: Automotive, Construction, Electronics, Healthcare, Textiles, and FMCG (Fast Moving Consumer Goods) among others being the key users of plastic products.

The downstream plastic processing companies in India primarily uses four major types of processes for the manufacturing of finished goods from polymers. Every process leads to the manufacture of a distinct class of finished product. The classification of the products derived from these processes is as per the table below:



The packaging and agriculture sector are the two-primary industries where plastic application takes place in India. These two industries constitute nearly 46 % of the total plastic application in India. The remaining plastic application market is split between Electronics, Houseware, and Other Industrial applications. These industries add upto 40% of the remaining market. The balance plastic application is split between the Building, Furniture, and Transportation industries.

Source:T&A Analysis/Plastmart

While the upstream segment consists mostly of large players, the downstream segment has a much more diversified presence with multiple small/medium scale enterprises involved in the manufacturing of plastic products. The Indian plastic processing industry is backed by a strong

polymer manufacturing base ensuring availability of raw materials. Most of the key raw materials, including polypropylene, high-density polyethylene, low-density polyethylene and PVC, are manufactured domestically.

1.1 Market Size and Growth Rate

Market Size	USD 26.5 Billion
CAGR¹ between the timeframe 2010-11 to 2015-16	13%

Source: T&A Analysis/Plastmart, Ministry of Chemicals, GoI,

The Plastics industry inclusive of polymers and processed plastics in India is estimated at USD 26.5 billion in FY² 2015-16.

Expected Growth Rate **13-15 %**

The Indian plastic industry has grown by 13% annually in the last five years and a similar growth rate is expected to continue in 2016-17. *Consolidation of the Indian plastic industry, along with easing up of Government Regulations and Trade barriers is the driving force behind India's ongoing growth in the Plastic Industry.*

	2015-16	2020-21 Projections
Per Capita Plastic Consumption	11 kg	20 kg
Employment Base	4 million	6 million
Polymer Demand in India	14 MMT ³	24 MMT

Source: Ministry of Chemicals, GoI, ICICI Sectoral Analysis

Per capita consumption of plastics in the world is 28 kg whereas in India it is estimated at 11 kg. In developed countries like USA, Germany, UK, Italy, Spain, Australia, Japan, and Korea it stands at about 100 kg and more. Plastics per capita consumption in developing countries like China is 38 kg and in Brazil is 32 kg. This means India is still in a phase wherein there is potential for the industry to grow.

Currently, majority of building-blocks in petrochemicals manufactured in India are consumed in the production of basic polymers such as polyethylene and polypropylene. Demand growth for basic polymers in India has been strong, and so polymer production has been the priority in the Indian Petrochemical segment.

¹ CAGR- Compound Annual Growth Rate

² FY- Financial Year or Fiscal year is the period starting from 1st April 20xx to 31st March 20xx

³ MMT-Million Metric Tonne

1.2 Market Segmentation & Market Share Analysis

	Upstream	Downstream
	Polymer	Plastic Processing
Manufacturing Capacity	8 MTPA ⁴	18 MTPA
Operational Companies	15 (Primarily consists of Large & Medium Sized Units)	30,000 (85% of turnover from small and medium sized enterprises)

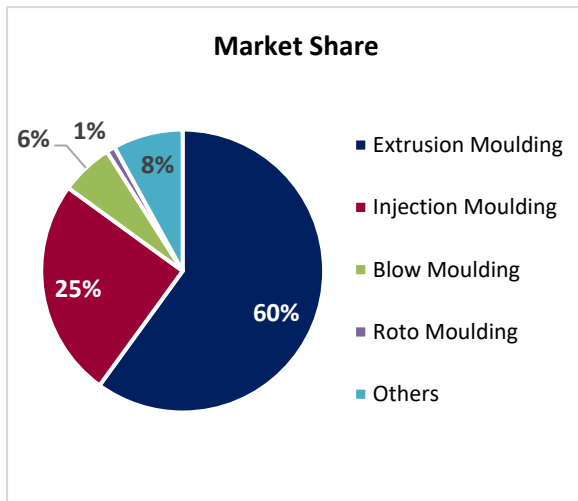
Source: Ministry of Chemicals, GoI

1.2.1 Market Segmentation of Downstream Plastic Processing Industry

The domestic downstream industry can be categorised based on the process for manufacturing plastics. Extrusion moulding is the most commonly used plastic processing method. Its products contribute about 60% to total consumption in India followed by injection moulding plastics articles, which contributes 25% to the total consumption in India. It is a fast process and is used to produce large numbers of identical items from high precision engineering components to disposable consumer goods.

Products from other moulding processes contribute the balance ~15% to total plastic consumption in India. Roto moulding and blow moulding are the most commonly used processes after extrusion and injection moulding. Roto moulding is a process used to produce hollow plastic products. Typical products produced are manhole inspection chambers, rainwater tanks, slides and climbing frames, diesel fuel tanks, children’s playhouses, traffic cones and pellets. Blow moulding is used for the production of hollow objects in large quantities. The main applications are in bottles, jars and other containers.

⁴ MTPA-Million Tonnes per Annum



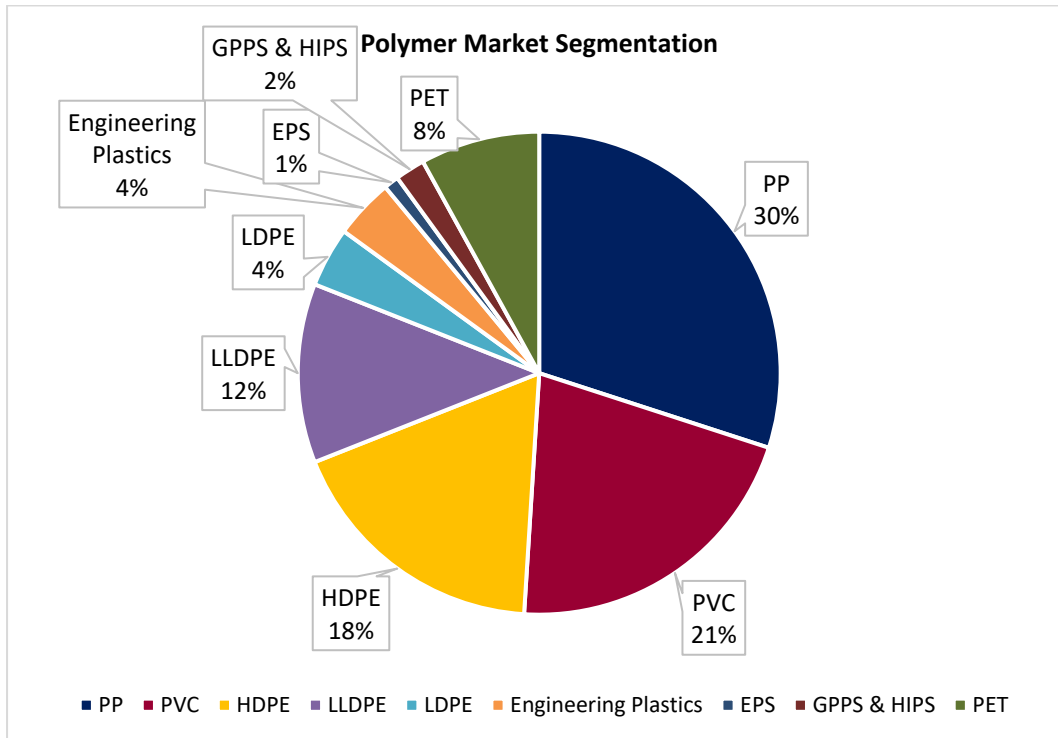
Process	Examples of Finished Products
Extrusion Moulding	Films and Sheets, Fibre and Filaments Pipes, Conduits and profiles
Injection Moulding	Industrial Injection Moulding, Household Injection Moulding and Thermoware /Moulded luggage.
Blow Moulding	Bottles, containers, Toys and Housewares.
Roto Moulding	Large circular tanks such as water tanks.

Source:T&A Analysis/Plastmart

1.2.2 Market Segmentation of Upstream Polymer Industry

The upstream Polymer segment constitutes of various types of polymers. PP(Polypropylene) is the most popular Polymer constituting about 30% of the market, followed by PVC with 21% of the polymer market. HDPE and LLDPE together constitute about 30% of the total market share. The other categories include PET (8%) followed by Engineering & Plastics, LDPE, 'GPPS (General Purpose Polystyrene) & HIPS (High Impact Polystyrene)' combined and EPS (Expanded Polystyrene).

The following chart displays the current market segmentation of Polymer demand in India.



Source:T&A Analysis/Plastmart

1.3 Key Drivers of Plastic Products in India



- **Government Initiatives:** The reform measures taken by the Government to promote growth of the plastic industry has made a huge impact on the plastic industry. Campaigns such as “Make in India” to promote more polymer production domestically has led to numerous new opportunities arising in this sector. Some of the initiatives taken by the Government for the upliftment of the plastic industry are as follows:

 - Deregulation of the Petrochemical Sector
 - 100% FDI allowed under the automatic route for fresh investments.,
 - Plastic Parks to promote domestic downstream plastic industry.
 - Setting up “Centre of Excellence” to improve the upstream technology, research and applications of polymer and plastics.
 - Setting up of CIPET (Central Institute of Plastics Engineering & Technology) for training and skill development in the petrochemical and plastic sector
 - Budgeted investments to increase the processing capacity of the machines
 - Investments in the water and sanitation sector are leading to India becoming a hub for PVC and CPVC (Chlorinated Polyvinyl Chloride) product manufacturing

- **Packaging industry:** The polymer packaging industry has evolved over several years, with more than 24% of the polymer consumption in India being concentrated in the packaging applications sector. The packaging industry has witnessed a growth of around 16% in the last 5 years. Growth of the packaging industry and its high consumption of polymer has been beneficial to the plastic industry as well.

- **Automotive industry:** Another huge driving force behind the growth of the Indian plastics sector is the automobile industry. Plastic plays a pivotal role in the manufacturing of automobiles and with a growth rate of 10-11% in the last five years this industry is one of the major consumers of plastic.

- **Appliance industry:** The appliance industry has seen a year-on-year growth of around 15% leading to it becoming a key contributor to the growth of the plastics industry in India. Plastic is in huge demand across the appliance industry. Factors which has enhanced the growth in this sector, include access to power in rural areas, increased spending power, and faster replacement cycles.
- **Healthcare industry:** India has emerged as a hub for medical tourism in recent years. The Indian pharmaceutical industry is currently growing at the rate of 13-15%. This has led to a bigger demand for polymer based products like syringes, implants, fluid bottles, disposable wears and medical equipment. An upliftment in the quality of living, has also increased the demand for sanitary products and baby care products, resulting in an increase in the demand for polymer.
- **Electronics:** India has a rapidly evolving electronics market. Technological development and cost benefits have increased the demand for electronic products in India. In the past 5 years, the electronics industry has grown by 16%. Plastics are widely used in this sector and are in higher demand due to the growth of the electronics industry in India.
- **Plasticulture:** Plasticulture is the usage of plastics in agriculture. This is a multibillion dollar industry worldwide and has now starting emerging in India as well. The growth of plasticulture in India is mainly through the increase in usage of green houses, crop/fruit covers and drip irrigation. Also, the increasing usage of polymer based products like pipes, storage tanks, Polyethylene Films, among others has been a key factor in the growth of the plastic industry in India.



2.0 Competitive Analysis

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The competition pattern in the plastic industry differs in the upstream and the downstream sectors. The upstream sector involves limited number of larger corporates. However, the downstream sector features mostly small & medium scale companies, which are large in number. There is a highly competitive landscape between these smaller companies for manufacturing plastic products.

2.1 Major Indian and Foreign players in the sector

2.1.1 Polymer Manufacturers

India's overall production infrastructure for petrochemicals is mainly driven by a limited number of oil refineries and standalone petrochemical companies that have added an ethylene cracker, or stand-alone ethylene crackers. At the same time, the pipeline infrastructure is minimal, so intermediates plants depend entirely on the host cracker to provide feedstocks.

Listed below are the leading domestic polymer manufacturers in India

Sl. No.	Company Name	Website	Key Product
1	Finolex Industries Limited	www.finolex.com	PVC, Methanol, Ethylene Dichloride
2	GAIL ⁵ India Limited	www.gailonline.com	Polymer plants in Patna and Assam
3	Haldia Petrochemicals Limited	www.haldiapetrochemicals.com	Polypropylene and Polyethylene
4	Reliance Industries Limited	www.ril.com	Mono Ethylene Glycol, Polypropylene and Paraxylene
5	LG Polymers India Private Limited	www.lgpi.co.in	EPS Resin, HYPOL ⁶ and High Impact Polystyrene.
6	Indian Oil Corporation Ltd	www.iocl.com	Paraxylene/Purified Terephthalic Acid
7	ONGC Petro Additions Ltd.	www.opalindia.in	Ethylene, Propylene, LLDPE/HDPE and Polypropylene.
8	Chemplast Sanmar Limited (Sanmar Group)	www.sanmargroup.com	PVC resins
9	DCW Ltd.	www.dcwLtd.com	PVC resins, Polyethylene and Recycled Polymers.

⁵ GAIL- Gas Authority of India Limited

⁶ HYPOL- hydrophilic prepolymers/polymers

10	HPCL-Mittal Energy Limited (HMEL)	www.hmel.in	Polypropylene
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International producers of petrochemical intermediate have preferred to ship products to India to meet demand. The current tariff structure in fact encourages this: duties are higher on olefin and aromatics (precursors for petrochemical intermediates) than on petrochemical intermediates themselves. There is a widely shared perception among foreign players that even when a project is approved, numerous obstacles generated by various stakeholders can significantly slow it down and adversely affect its economics.

Listed below are the leading global polymer manufacturers that supply in the Indian market.

Sl. No.	Company Name	Website
1	Sumitomo Chemical	www.sumitomo-chem.co.jp/english/
2	DuPont	www.dupont.com
3	SIBUR	www.sibur-int.com
4	Akzo Nobel	www.akzonobel.com
5	Covestro	www.covestro.com
6	Saudi Arabia Basic Industries Corporation (SABIC)	www.sabic.com
7	Dow Chemicals	www.dow.com
8	Sinopec Corporation	www.english.sinopec.com
9	Exxon Mobil Corporation	www.exxonmobilchemical.com
10	BASF SE	www.basf.com

2.1.2 Plastic Processed Goods Manufacturers

The plastic processing sector in India is primarily dominated by Indian companies. The small/medium scale enterprises hold nearly 85% of the market. The foreign manufacturers primarily export their products into India. This industry has a significant proportion of unorganised players. However, in the organised segment, there are some dominant players that hold a significant market share in their respective categories.

Listed below are the leading domestic plastic processing companies in India that manufacture finished goods.

Sl. No.	Company Name	Website	Key Product
1	Supreme Industries Ltd	www.supreme.co.in	Plastic Drainage Pipes and Moulded Furniture
2	Astral Poly Technik Ltd	www.astralpipes.com	CPVC Piping, Piping for agriculture application and Conduit Pipes
3	VIP Industries Limited Ltd.	www.vipindustries.co.in	Plastic Luggage, bags, vanity cases
4	Responsive Industries Ltd.	www.responsiveindustries.com	PVC Flooring, Artificial Leather
5	Nilkamal Ltd.	www.nilkamal.com	Plastic moulded furniture
6	Wim Plast Limited	www.cellowimplast.com	Plastic Furniture, Material Handling products, Plastic ball pen, thermoware products
7	Jain Irrigation Systems Ltd	www.jains.com	Micro Irrigation Systems, Plastic Pipes
8	Mayur Uniquoters Ltd	www.mayuruniquoters.com	PU Leather, PVC Leather, Synthetic Leather
9	Arrow Coated Products Ltd	www.arrowcoated.com	Printing products and packaging material.
10	Peacock Industries Ltd.	www.globalpeacock.co.in	Industrial Plastic Products, Healthcare plastic items

2.2 Current Import Dependence for Plastics in India

Upstream Polymer Products

In India, the primary raw materials for plastics that include polypropylene, high-density polyethylene, low-density polyethylene and PVC, are manufactured domestically with the balance the demand i.e. about 40—50% imported.

HS Codes 3901 to 3914 – These Includes ethylene, propylene, styrene, vinyl acetate, acrylic polymers, polyacetals, epoxide resins, polycarbonates, polyamides, resins, natural polymers and ion exchangers. These upstream imports constituted around 76% of the total plastic products imports in India in 2015.

The details of the imports along with their values and percentage of total upstream products imports is listed below:

HS Code	Description	Value (USD in billion)	% of Total Upstream Imported products
3901	Polymers of ethylene, in primary forms	2.68	30.63%
3904	Polymers of vinyl chloride or of other halogenated olefins, in primary forms	1.62	18.51%
3907	Polyacetals, other polyethers and epoxide resins, in primary forms; polycarbonates, alkyd resins	1.27	14.51%
3902	Polymers of propylene or of other olefins, in primary forms	0.94	10.74%
3909	Amino-resins, phenolic resins and polyurethanes, in primary forms	0.39	4.46%
3906	Acrylic polymers, in primary forms	0.39	4.46%
3908	Polyamides, in primary forms	0.35	4.00%
3912	Cellulose and its chemical derivatives, n.e.s., in primary forms	0.30	3.43%
3903	Polymers of styrene, in primary forms	0.25	2.86%
3905	Polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers	0.25	2.86%
3910	Silicones in primary forms	0.17	1.94%
3911	Petroleum resins, coumarone-indene resins, polyterpenes,	0.09	1.03%

	polysulphides, polysulphones		
3913	Natural polymers, e.g. alginic acid, and modified natural polymers, e.g. hardened proteins	0.03	0.34%
3914	Ion-exchangers based on polymers of heading 3901 to 3913, in primary forms	0.02	0.23%

Source: trademap.org

The demand for polymer products such as HDPE, LDPE and PVC is growing in India but, the growth rate in the domestic manufacturing of polymers is not sufficient to match the demand. This has led to a shortage of PVC in the domestic market, leading to large amount of imports taking place at an increased rate.

The Indian import duties on PVC are lower than that of the developed countries as well, which also encourages companies to import PVC rather than additionally investing more funds into manufacturing of the same.

In the 2002-2015 period, the demand for PVC grew at a CAGR of 8.7 percent. Whereas the domestic production grew at a CAGR of 3.7 percent, this resulted in imports growing at a CAGR of 32.5 percent.

The growing demand for polymer based products has led to a higher dependency on crude oil which is the critical raw material in deriving plastics such as PVC, PP (Polypropylene), PE (Polyethylene), PS (Polystyrene) among others. This is leading to the polymer industry relying on imports to meet its increasing demands.

As per the projections relating to the growth rate of the plastic industry, it is expected that a supply-demand gap will start to expand unless there is more investment in the manufacturing capacity in the upstream segment.

Downstream Processed Plastics Products

HS Codes 3915 to 3926 - All imported plastic processed goods form part of these HS Codes. India is not heavily import dependent with regard to plastic processed goods. The cumulative total of imports of plastic processed goods accounted for only 24% of the country's total Upstream and downstream imports in 2015.

The major plastic processed products (>5% Share in imports of plastic processed goods) that are imported in India is listed below:

HS Code	Description	Value (USD in billion)	% of Downstream Products Imports
3920	Plates, sheets, film, foil and strip, of non-cellular plastics, not reinforced, laminated	0.61	34.12
3923	Articles for the conveyance or packaging of goods, of plastics; stoppers, lids, caps	0.26	14.59
3919	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics	0.24	13.71
3921	Plates, sheets, film, foil and strip, of plastics, reinforced, laminated, supported or similarly	0.20	11.33
3909	Tubes, pipes and hoses, and fittings therefor, e.g. joints, elbows, flanges, of plastics	0.14	7.68

Source: uncomtrade.com



3.0 Regulatory Framework and Import Policy

3.0 Regulatory framework and import policy

3.1 Government Regulations

In a large plastic industry like India's, multiple steps have been taken to regulate plastic production and controlling plastic wastes.

The GOI (Government of India) permits 100% FDI under automatic route for fresh investments except for a few hazardous chemicals in the Petrochemical segment.

The primary rules that provide guidelines for companies operating in the plastic industry are listed below.

- **The New Industrial Policy 1991,**
On July 24, 1991, Government of India announced its new industrial policy with an aim to improve the Industrial Structure of various sectors including Petrochemical.
- **The Plastics (Manufacture, Usage and Waste Management) Rules, 2009:**
These rules state the registration and usage norms for polymer manufacturers. The rules also broadly outline the waste management policies to be followed by the plastic manufacturers.
- **Plastic Manufacture, Sale and Usage Rules,2003:**
These rules outline the manufacture and usage of plastic products such as carry bags, commodities, containers, among others. The wastage and disposal norms of these items is also outlined through these rules.
- **Environment (Protection) Act,1986**
The purpose of the Act is to for the protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property.
- **Water (Prevention and Control of Pollution) Act,1974**
The act aims to prevent and control water pollution and to maintain/restore wholesomeness of water by establishing central and state pollution control board to monitor and enforce the regulations
- **Air (Prevention and Control of Pollution) Act,1981**
This is an Act to provide for prevention, control and abatement of air pollution in the country so as to preserve the quality of air.
- **Plastic Waste (Management and Handling) Rules 2011:**
These rules deal exclusively with plastic waste management and their handling protocol. This includes the conditions for stocking, distribution, sale of carry bags, sachets as well as

recovery, recycling and disposal of plastic waste. The rules also state the marking or labelling for the relevant plastic materials under these rules.

3.2 Import Policy

India's import and export system is governed by the Foreign Trade (Development & Regulation) Act of 1992 as well as India's Export Import (EXIM) Policy.

The primary duty of every importer of plastic product in India is to obtain a registration with their regional licensing authority. An Import Export Code (IEC) is given by the Director General of the Foreign Trade Office to the importer, based on which all customs clearances shall be granted to the importer. This process to become an importer is a one-time process but renewal might be required of the same depending on the by-laws laid down by the regional licensing authority.

The Indian Trade Classification (ITC)-Harmonized System (HS) classifies goods into three categories:

1. Restricted
2. Canalized
3. Prohibited

Any good not specified in the above categories can be freely imported, if the importer has obtained a valid IEC.

Restricted Items

Can be imported only after obtaining Import License. They must also be disposed in the manner specified by the Licensing Authority.

An import license is valid for 24 months for capital goods and 18 months for all other goods.

Canalized Items

The items which can only be imported using specific methods or procedures of transport.

These goods can be imported only through canalizing agencies. Petroleum based products are mostly canalized items.

Prohibited Items

These goods are strictly prohibited from being imported to India.

Some examples of such items include: wild animals, unprocessed ivory, etc.

All plastic upstream and downstream products may be imported into India under an Open General Licence (OGL), which means no specific licence is required to import plastic into India. However, as applicable for any general imports, the import company must get an Import Export Code (IEC) issued by the Director General of Foreign Trade (DGFT⁷), Ministry of Commerce.

⁷ The Directorate General of Foreign Trade (DGFT) is the agency of the Ministry of Commerce and Industry of the Government of India responsible for administering laws regarding foreign trade and foreign investment in India

The value of goods imported is determined based on the Customs Valuation (Determination of Value of Imported Goods) Rules, 2007. The Tariff Value on such imported goods are fixed by the Central Board of Excise & Customs (CBEC) for the different class of goods imported.

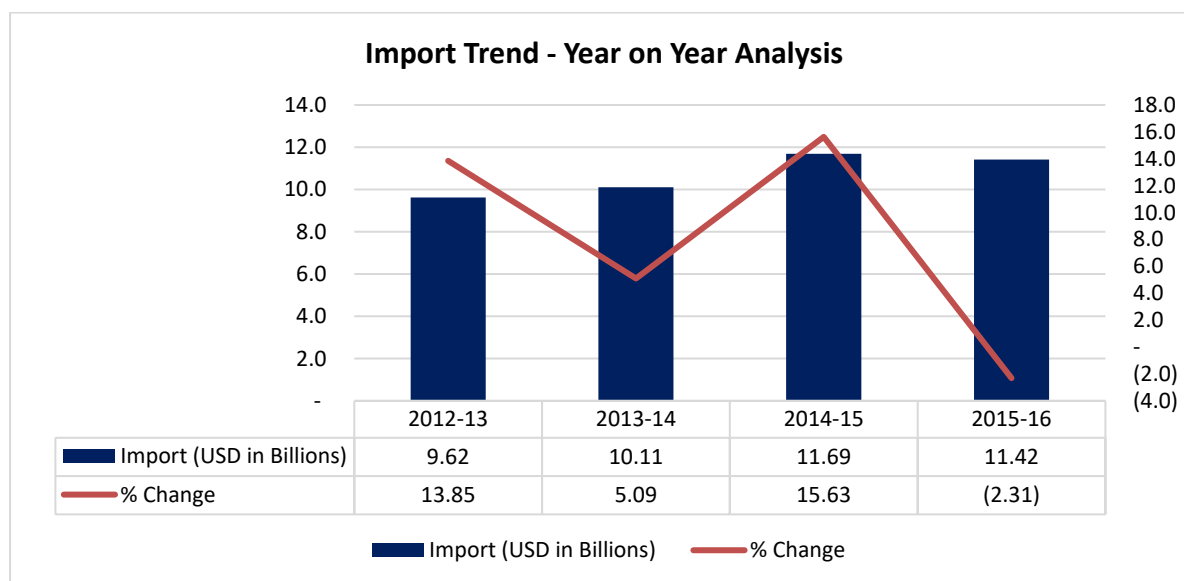
The plastic upstream and downstream products, fall under chapter 39 of the Customs HS Code. The relevant HS Codes are as follows:

HS Code	Item Description
3901	Import duty on primary forms polymers of ethylene, in primary forms
3902	Import duty on polymers of propylene or of other olefins, in primary forms
3903	Import duty on polymers of styrene, in primary forms
3904	Import duty on polymers of vinyl chloride or of other halogenated olefins, in primary forms
3905	Import duty on polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers in primary forms
3906	Import duty on acrylic-polymers in primary forms
3907	Import duty on polyacetals, other, polyether and epoxide resins,
3908	Import duty on polyamides in primary forms
3909	Import duty on amino-resins, phenolic resins and polyurethanes,
3910	Import duty on silicones in primary forms
3911	Import duty on petroleum resins, coumarone indene-indene resins, polyterpenes, polysulphides, polysulphones and other products specified in note 3 to this
3912	Import duty on cellulose and its chemical derivatives, not elsewhere specified or included, in primary forms
3913	Import duty on natural polymers (for example, alginic acid) and modified natural polymers, not elsewhere specified
3914	Import duty on ion exchangers based on polymers of headings 3901 to 3913, in primary forms
3915	Import duty on waste, parings and scrap, of plastics
3916	Import duty on monofilament of which any cross-sectional dimension exceeds 1mm, rods, sticks and profile shapes, whether surface worked but not otherwise worked, of plastics
3917	Import duty on tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics

3918	Import duty on floorcoverings of plastics, whether self-adhesive, in rolls or in the form of tiles, wall or ceiling coverings of plastics
3919	Import duty on self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls
3920	Import duty on other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly combined with other materials
3921	Import duty on other plates, sheets, film, foil and strip, of plastics
3922	Import duty on baths, showerbaths, sinks, wash-basins, bidets, lavatory pans, seats & covers, flushing cisterns and similar sanitary ware of plastics
3923	Import duty on articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures of plastics
3924	Import duty on tableware, kitchenware, other household articles and toilet articles, of plastics
3925	Import duty on buildersware of plastics, not elsewhere specified or included
3926	Import duty on other articles of plastics and articles of other materials of headings 3901 to 3914

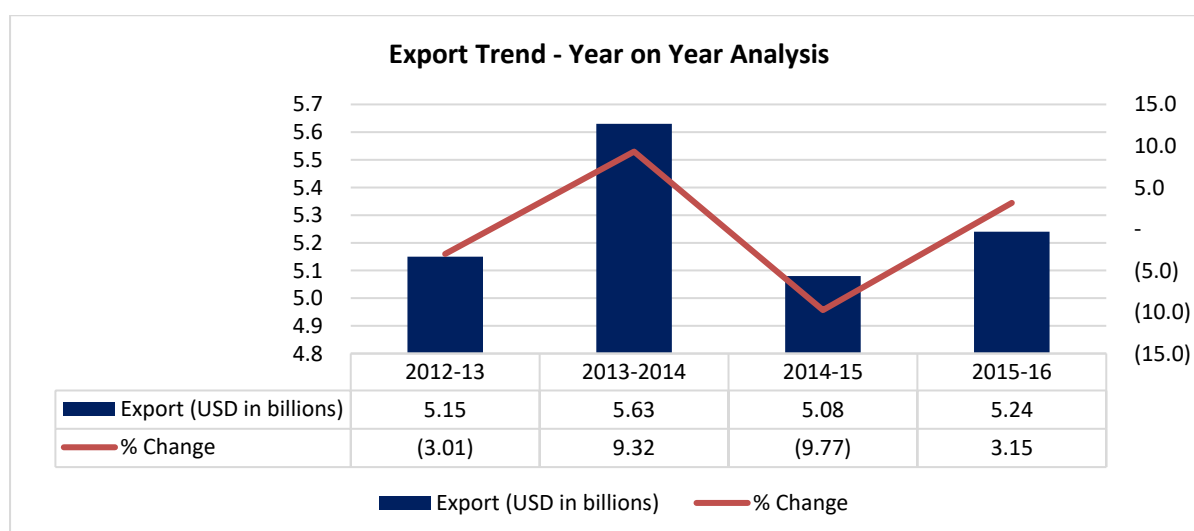
3.3 Import and Export Trends

The overall imports in value terms of plastic products of the country has decreased in the previous Financial Year 2015-16. Although, an increase in import demand for polymers is expected in the coming years, in order to bridge the demand-supply gap from the local market. From FY⁸ 2012-13 to 2015-16 there has been a steady increase in the amount of **imports** taking place, however it reduced in the Financial Year 2015-16. The chart below illustrates the same:



Source: commerce.gov.in

The plastic industry **exports** from FY 2012-13 to 2015-16 depicts a trend which is consistently around USD 5 Billion. The growth trend shows a slight variation, with the amount of exports increasing by 3% in 2015-16. The chart below illustrates the same:



Source: commerce.gov.in

⁸ FY- Financial Year or Fiscal year is the period starting from 1st April 20xx to 31st March 20xx

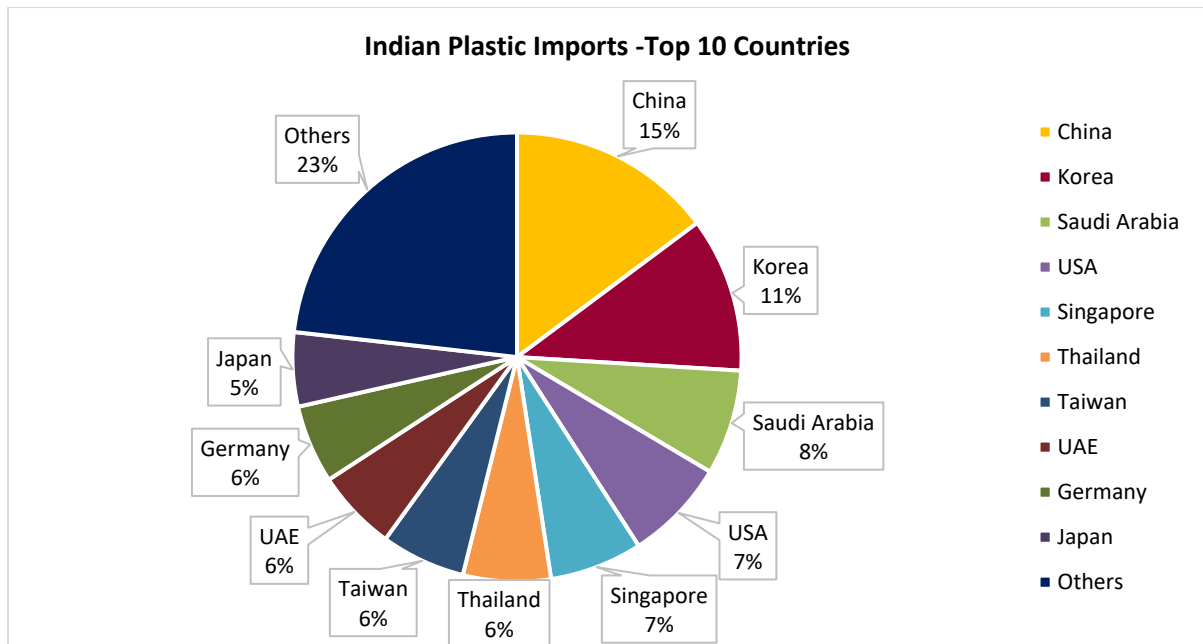
The import and export balance in the Plastics Segment for the Financial Year 2015-16 shows that India is a net importer of plastic products



3.3.1 Imports

In the FY 2015-16, the top ten countries that exported plastic upstream and downstream products to India are China, Korea, Saudi Arabia, USA, Singapore, Thailand, Taiwan, UAE, Germany and Japan. These countries individually contribute to more than 5% of the total plastic imports to the country.

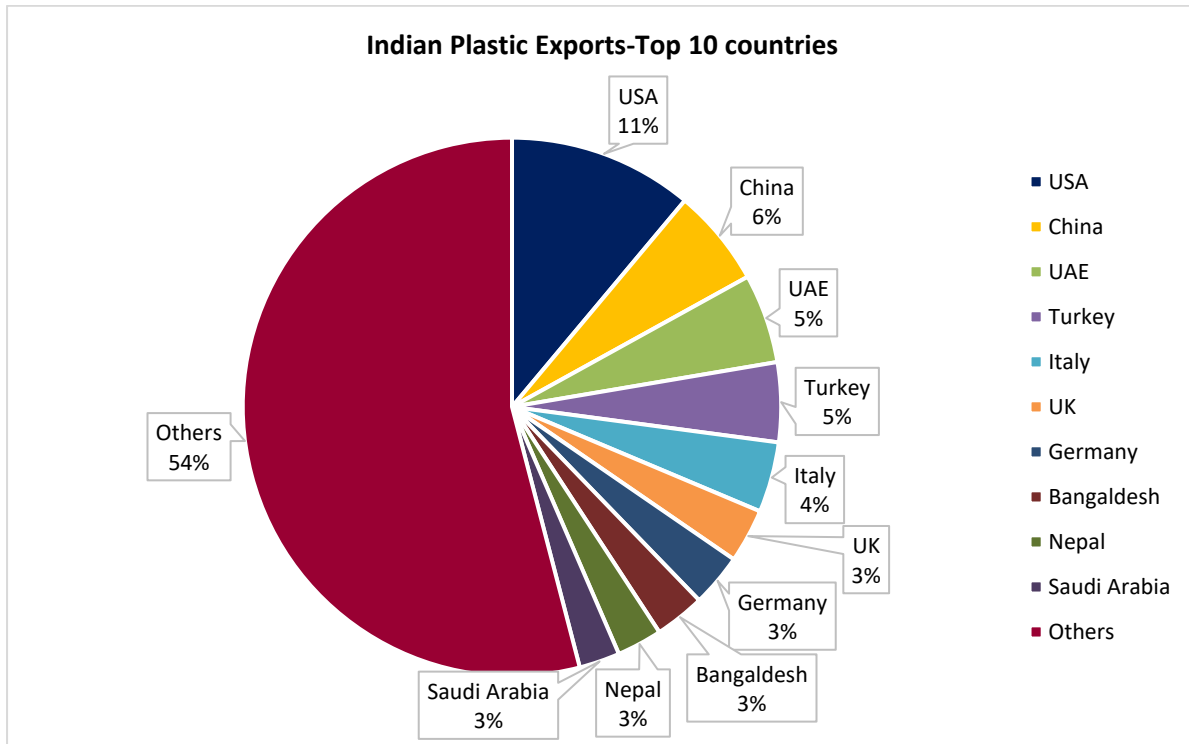
The other countries that export to India are grouped as ‘others’ in the chart below



*Includes both upstream and downstream products
Source: commerce.gov.in

3.3.2 Exports

India exports various plastic products primarily to USA, China, UAE, Turkey, Italy, UK, Germany, Bangladesh and Saudi Arabia. The below chart shows India’s export pattern globally. All the countries having less than 3% share in the total export have been grouped together in the “Others” category.



*Includes both upstream and downstream products
Source: commerce.gov.in

3.4 Import Tariff and Duties, Antidumping duty

There are different types of duties in India, which are levied on imports. The three primary duties levied under The Customs Act, 1962 in India are: Basic Duty, Countervailing Duty and Special Additional Countervailing Duty.

All polymer and plastic based products are categorized under Chapter 39 of the HS Code under the Customs Act. The sub-HS Codes under the Chapter 39 regarding Plastics have a consistent rate of customs duty.

A 'Landing Charge' of 1% is added to the Cost, Insurance and Freight (CIF) value to determine the assessable value for customs duty purposes.

The customs tax rate applicable on the Chapter 39 and it's containing HS Codes is as follows:

Customs Duty Description	Rate of Duty (Tariff in %)
Basic Duty	10 %
Countervailing Duty	12 %
Educational Cess	2%
Secondary Higher Educational Cess	1%
Special Countervailing Duty	4%
Total Effective Customs Duty	28.85%

Source: commerce.gov.in

3.4.1 Antidumping duty

The antidumping duty in India is not subject to the import of plastic products. However, in a bid to protect the domestic market from increasing imports, the Central Board of Excise and Customs (CBEC) has levied an Antidumping Duty on the **plastic processing or injection-moulding machines**, also known as injection presses. The antidumping duty is levied primarily on imports from Chinese Taipei, Malaysia, Philippines and Vietnam.

The plastic processing machines or Injection moulding machines used for processing or moulding plastic materials on which Antidumping Duty is levied must have a clamping force equal to or more than 40 tonnes and equal to or less than 3200 tonnes in weight (HS Code: 84771000).

3.5 Legal Documentation

As per the rules laid down by the Central Board of Excise and Customs, there are a criterion of basic documentation which must be submitted at the time of import into India. The documents needed at the time of import are listed below:

- **Bill of Entry:** This is a key document for all custom clearances. It must be filed within 30 days of arrival of goods at a customs location. All clearances, assessment and examination of goods are carried out after such bill of entry is filed.
- **Commercial Invoice:** This document is the prime source for computing the value of the goods imported as per the relevant laws. The assessable value based on which the custom duty is charged is finalized based on such commercial invoice.
- **Bill of Lading/Airway Bill:** The bill of lading under sea shipment or airway bill under air shipment is a mandatory document for customs clearances. This document provides the details of cargo being carried with the terms of delivery.
- **Insurance Certificate:** This is a supporting document against importer's declaration on terms of delivery. This document allows the custom officers to verify whether insurance is included in the selling price of the good and accordingly find an assessable value.
- **Purchase Order/Letter of Credit:** The terms and conditions of sale contract are detailed in the purchase order/letter of credit. The customs officials confirm the value of the assessable goods based on the conditions mentioned in these documents.
- **Dock Challan:** It is a form to be filled, making the payment for dock charges. These charges are paid once all the other customs formalities are completed.

Specific Documentation

The import of [plastic waste/scrap](#) is not permitted as per the Customs Regulations in India, except against a license.

As per the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008 plastic waste is allowed to be imported only with the prior permission of the 'Ministry of Environment & Forest' (MoEF). However, such import can only be for recycling purposes and not for disposal. The following documentation and records must be maintained in order to import such plastic waste/scrap:

- Inventory of imported material must be maintained.
- Detail of exporter from whom such import has been made must also be recorded.

- The residue generated while recycling the imported scrap should be recorded.
- The quantity and characteristics of non-recyclable residue has to be maintained.

There is no other specific documentation required for the import of plastic products. However, the Customs Officer might demand additional documentation based on his judgment regarding the import shipment.

3.6 Trade Restrictions

As per the regulations of the Central Board of Excise and Customs, the import of all types of plastic wastes/scrap (except PET bottle waste/scrap) shall not be permitted except against a license. The Department of Chemicals & Petrochemicals and other Ministries have prescribed certain guidelines/conditions based on which the license may be granted for the import of plastic wastes/scrap. The applicants for such license have to submit their applications to the Directorate General of Foreign Trade (DGFT). They must strictly adhere to the following guidelines/conditions:

- The plastic wastes/scrap for this purpose are defined as “Plastic scrap/waste constitute those fractions of plastics generated by various plastic processing operations or those fractions generated in the production process of plastics in a plant, which have not been put to any use whatsoever and as such can be termed as virgin or new material which can be recycled into viable commercial products using standard plastic processing techniques but without involving any process of cleaning, whereby effluents are generated”.
- Such virgin/new Plastic scrap/waste shall be permitted for import only in the following forms, which are: compressed, films in cut condition, cut tape soft waste, flakes, powders, pieces of irregular shape (not exceeding the size of 3" x 3").
- Any other category of plastic scrap/wastes which are not covered in the description/definition given in the above two points shall not be ordinarily permitted for import.
- The plastic scrap/wastes described in the first two points above, would be permitted only to the actual users, who have the required facility for recycling such scrap/waste and who are duly registered with the competent State/Central authority. They must also possess clear pollution clearance certificate from the concerned State Pollution Board where the unit is located, as well as a capacity assessment certificate.
- Every consignment of such import must contain the details specifying that all the conditions mentioned above have been met.
- Import licences issued under these laws, shall be subject to Actual User condition and any other condition which may be imposed by the Special Licensing Committee.

The Foreign Trade Policy (2015-2020) provides safeguards against poor quality imports by providing for Domestic Laws/ Rules/ Orders/ Regulations / Technical Specifications/ Environmental/ Safety and Health Standards, which are applicable to domestically produced goods, to be applicable to imports as well, unless specifically exempted. There are no other trade restrictions on the individual plastic

products. However, all import export of products must be as per the laws and guidelines specified by the Indian Government.



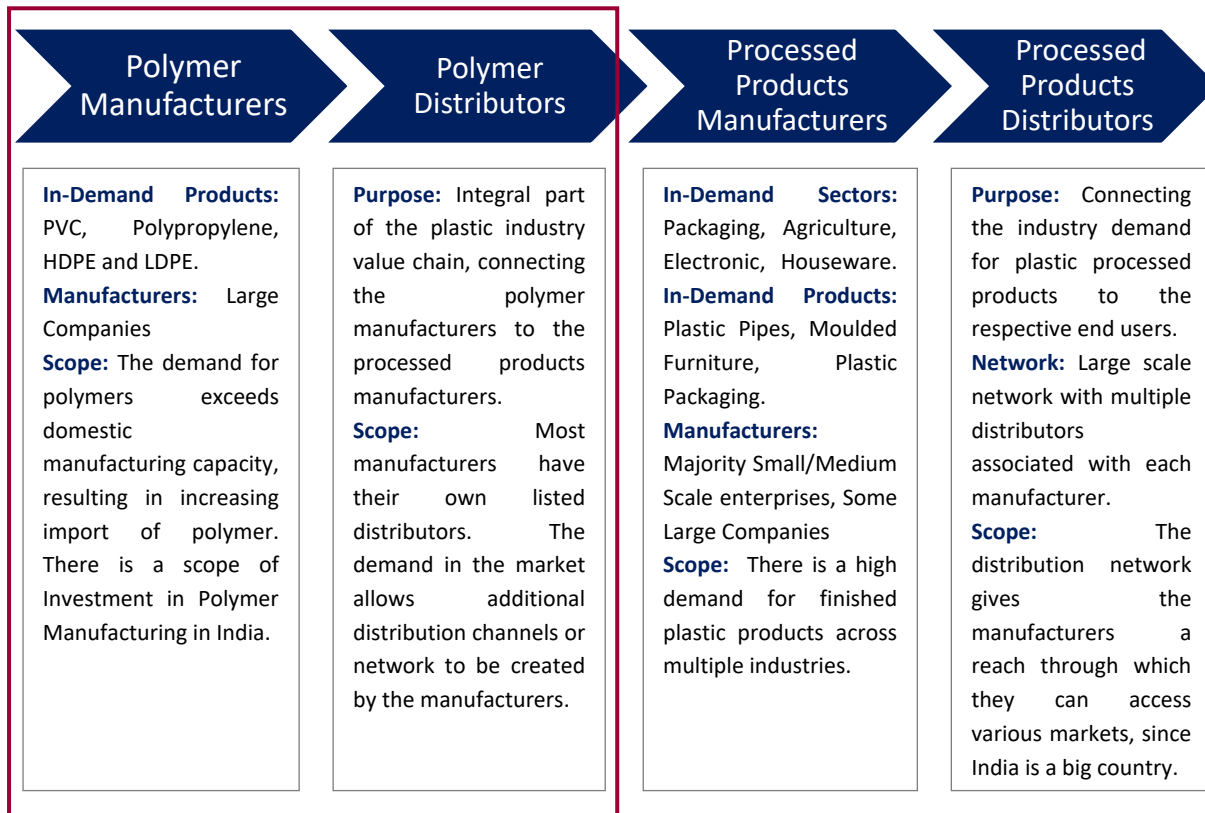
4.0 Opportunity for Brazilian Products

4.0 Opportunities for Brazilian Products

4.1 Opportunity Assessment Table

The Indian Plastic Industry has been carved into two separate segments based on the product value chain i.e. upstream and downstream. The Upstream channel consists of Polymer Manufacturers and Polymer Distributors, while, the Downstream channel consists of Processed Products Manufacturers and Distributors.

Plastic Industry Value Chain: The upstream units are involved in the manufacturing of different types of polymer such as PVC, HDPE, LDPE. The plastic processing manufacturers further use these basic polymers for manufacturing finished products.



As per T&A Analysis, **In the upstream segment there is** considerable demand-supply gap for polymer raw materials. Polymer Manufacturers in India do not have sufficient capacity to meet such demand and have resorted to importing polymers to meet the demand.

Upstream Imports		
Polymers of ethylene	Polymers of vinyl chloride	Polyacetals, Polyethers
Polymers of propylene	Amino Resins, Polyurethanes	Acrylic Polymers
Polyamides	Cellulose and chemicals	Polymers of styrene
Polymers of vinyl acetate	Petroleum Resins	Natural/ Modified Polymers

Brazilian companies which are into polymer manufacturing as well as trading can be a good fit to cater to the growing demand in India.

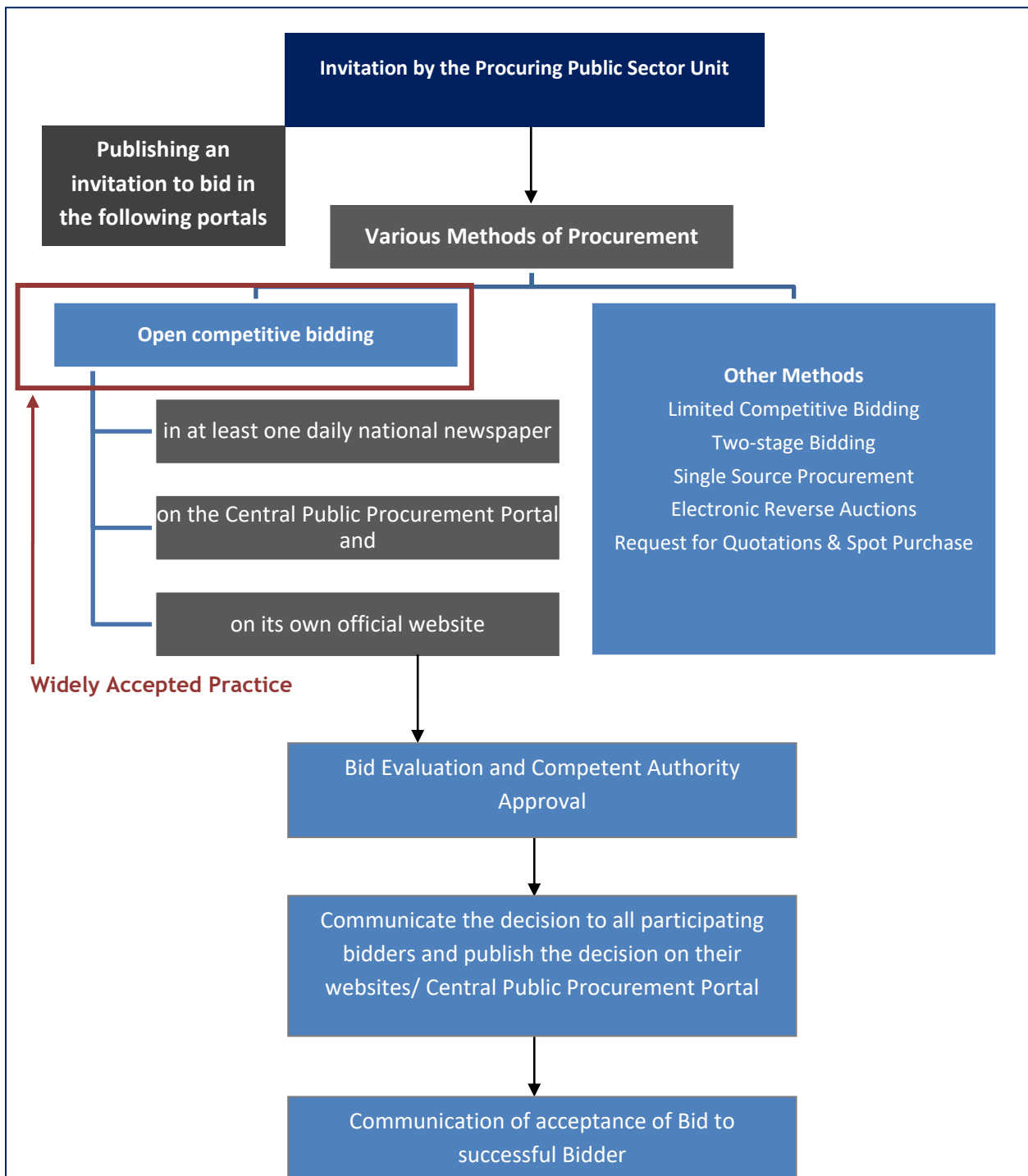
In the downstream segment, India imports various processed plastic products as well. Since, the product range and application areas of downstream segment is vast, a table below illustrates some of the key products imported in the downstream segment.

Downstream Imports		
Plates, Sheet, Film, Foil	Packaging Articles, Lids, Caps	Laminated Plastic Products
Self-adhesive Plastic Products	Plastic Pipes	Fittings and Tubes

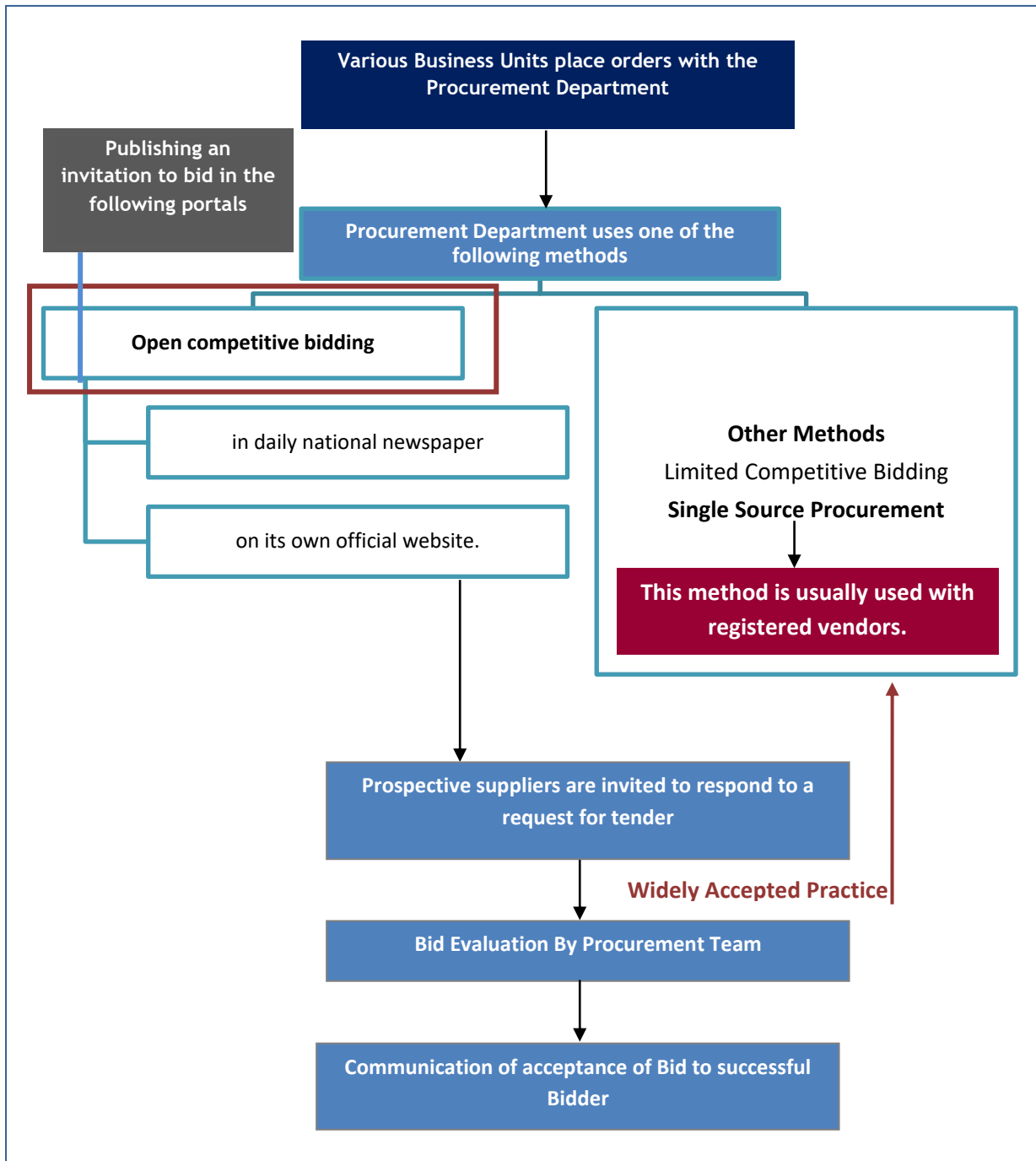
4.2 Participate in major tenders in India

The plastic industry in India attracts tenders primarily for the procurement of upstream products. The tendering process in India varies based on the nature of the company, depending on whether it is a private or a public/government company. The top polymer manufacturing companies in India consist of both private as well as public/government companies.

The procurement process for Public/Government tenders regarding the manufacturing companies, in India is as follows:



The procurement process for Private Sector tenders in India is as follows:



4.3 Go to Market Strategy

This Go-To-Market (GTM) Strategy is based on T&A Analysis of the Plastic Sector on basis of the potential for Brazilian products.

The GTM strategy below highlights the key pointers for Brazilian **Polymer Manufacturing** companies.

Export Potential			
	High Potential	Medium Potential	Low Potential
PVC	√		
Polypropylene	√		
HDPE & LLDPE		√	
LDPE, Engineering Plastics, PET			√
Potential for Polymer Manufacturing Plant			
PVC	√		
Polypropylene	√		
Entry Barriers			
<ul style="list-style-type: none"> Foreign companies prefer to export their products into India because of favourable tariff policies in India. However, in terms of manufacturing, the industry has not yet garnered popular foreign manufacturing set-ups up until now primarily because of feedstock issues and regulatory bottlenecks. However, the government has recently liberalised the policies for foreign companies in this sector to attract FDI. 			
Target Customer Segments			
<ul style="list-style-type: none"> Plastic Processed Goods Manufacturers are the principal customers of the Polymer Manufacturers in the direct B2B segment. They have a ready requirement for the distinct polymers, which they can mould into plastic products as per their preference. However, even distributors/importers can be a potential reselling partner in India. 			
Market Insights			
<ul style="list-style-type: none"> The Indian Polymer manufacturing segment is dominated with large scale domestic companies. Foreign companies primarily export their products into India. India is currently very import dependent for basic polymers and imports about 40-50% of the total polymers consumed. The Government of India has constituted a steering committee to fast track the implementation of four PCPIRs, (Petroleum, Chemical and Petrochemicals Investment Regions) which would have state of the art infrastructure and common facilities, in Andhra Pradesh (Vizag), Gujarat (Dahej), Odisha (Paradeep) and Tamil Nadu (Cuddalore and 			

Nagapattinam) to promote investment and industrial development in the sector.

The GTM strategy below highlights key pointers for Brazilian **Plastic Products Manufacturing** companies.

Export Potential	High Potential	Medium Potential	Low Potential
Plastic Pipes	√		
Plastic Packaging Products	√		
Plastic for Automotive		√	
Plastic for Electronics		√	
Plastic for Household Sector			√
Potential for Plastic Products Manufacturing Plant			
			√
Entry Barriers			
Foreign companies primarily prefer to export finished products into India since the tariff structure and distribution framework for such products in India is well placed for foreign products. However, manufacturing such products in India is not yet an industry practice by foreign players.			
Target Customer Segment			
<ul style="list-style-type: none"> Distributors based on the product and application 			
Market Insights			
<ul style="list-style-type: none"> The Indian plastic processing industry consists around 85% of small/medium scale enterprises along with fewer large companies. As a result, the industry is dominated by the unorganised segment. This segment is a net exporter. Recent trade data suggests India has imported USD 1.8 billion and exported USD 2.1 billion worth of processed plastic products in financial year 2015. A scheme to setup need-based plastic parks with the requisite infrastructure and common facilities was approved by the Government in March 2015. The government has given approval for 4 such plastic parks in India. To promote environmentally friendly growth of the Plastic Processing Industry, there are trade restrictions in place for the import of Plastic/Waste Scrap. 			



5.0 Potential Distributor Mapping

5.0 Potential Distributor Mapping

The plastic industry distributor network can be segregated based on the product i.e. polymer processed/ finished goods from these polymers.

Some of the major distributors in the polymer segment are listed below:

Sl. No.	Company Name	Principal Co.	Website
1	SK & Company Pvt. Ltd.	Reliance Industries Ltd.	www.skgroup.org
2	Resin Distributors Ltd.	Reliance Industries Ltd.	www.resindistributors.com
3	Overseas Polymers Pvt. Ltd.	Multiple Companies	www.overseaspolymers.com
4	Indochem & Polymers Pvt. Ltd.	HPCL-Mittal Energy Ltd.	www.indochempolymers.com
5	Bhimrajka Impex Ltd.	Multiple Companies	www.bhimrajka.com
6	Goyal Engg. Polymers Pvt. Ltd	Multiple Companies	www.geppl.com
7	Rubexco Pvt.Ltd.	Reliance Industries Ltd.	www.rubexco.com
8	Synergistix India Pvt. Ltd.	Akzo Nobel Group	www.synergistixindia.com
9	Venus Petrochemicals Pvt. Ltd.	Gas Authority of India Ltd.	www.venuspetrochem.com
10	KPL International Ltd.	Multiple Companies	www.kplintl.com

The distributors in the finished goods sector are based on the product portfolio of finished goods on offer. These distributors are linked with multiple companies and have their own sub-distribution chains as well.

Some of the major distributors in the processed/ finished plastic product segment are listed below:

Sl. No.	Company Name	Type of Product	Website
1	Kapoor Plastics	Polycarbonate Sheets, PVC Foam Board Sheets & Acrylic Sheets	www.kapoorplastics.com
2	Delta Flow	PVC Piping, Rigid PVC, PVDF Sheets	www.processplasticpiping.com
3	Pet Plastics Ltd.	Pipes, Pipe fittings, Plastic	www.petplasticslimited.com

		bags, Plastic films, Agricultural Pipes	
4	Vin Industries Ltd.	PVC Rigid Pipes, PVC Processors, Plastic Recycling	www.vin.co.in
5	Sun Ace Kakoh (Pvt.) Ltd.	PVC Stabilizers	www.sunace.com.sg
6	Padmini Petroplast Pvt. Ltd.	Polyplastics	www.padminipetroplast.com
7	Aga Group International Pvt. Ltd.	Laboratory plastic wares, plastic instruments	www.againdia.com
8	Acry Plus	Plastic Sheets, Polycarbonate Sheets, PVC Foam Sheets	www.acryplus.com
9	Ajay Polymers & Engineers	Plastic equipment, PVC Pipes, Industrial Cooling Plastics	www.ajaypolymers.in
10	Kay Kay Global Suppliers	Laboratory plastic wares, plastic instruments, Hospital Furniture	www.kaykayindia.com



6.0 Key Influencers

6.0 Key Influencers

The key influencers in the Indian plastic industry are The Plastics Export Promotion Council (PLEXCONCIL), The All India Plastics Manufacturers’ Association (AIPMA), The Indian Centre for Plastics in the Environment (ICPE) and Plastindia Foundation (PIF).

These organisations deal with the promotion, development as well as maintaining control over all plastic manufacturing activities in India. Each organisation performs its own distinct activity and provides value addition to the plastic industry in India.

1	<p>The Plastics Export Promotion Council (Plexconcil)</p>	<p>Website: www.plexconcil.co.in Telephone: 91-22-26833951 Address: Crystal Tower, Ground Floor, Andheri (E), Mumbai-400069</p>
<ul style="list-style-type: none"> Plexconcil is sponsored by the Ministry of Commerce & Industry, Government of India. It represents the exporting community in the Indian Plastic Industry. The organisation is involved in making export promotion strategies with the aim of expanding the plastic industry export base. 		
2	<p>All India Plastics Manufacturers’ Association (AIPMA)</p>	<p>Website: www.aipma.net Telephone: 91-22-67778899 Address: AIPMA House, A-52, Street No. 1, M.I.D.C. Marol, Andheri (East), Mumbai - 400093</p>
<ul style="list-style-type: none"> The AIPMA is one of the largest and oldest Apex Body of the Plastic Industry in India AIPMA promotes plastics in compliance with the National and International Standards and Certifications in this regard. The AIPMA is recognized by the Chemical & Fertilizers Ministry, Department of Petrochemicals, Government of India and has representation at various ministries to voice concerns and difficulties faced by the Industry. AIPMA organizes National as well as International Seminars, Lectures, Training Programmes and Liaison between the Government and the Industry. The organization acts as Nodal Agents to promote Global Plastics Exhibitions & Trade Delegations. 		

3	<p>The Indian Centre for Plastics in the Environment (ICPE)</p>	<p>Website: www.icpe.in Telephone: 91-22-22617137 Address: Flat No.1, 4th Floor, Choksey Mansion, 303, Shahid Bhagat Singh Road, Mumbai - 400001</p>
<ul style="list-style-type: none"> • The ICPE has been set up on the recommendation of a Task Force constituted by The Ministry of Environment and Forests (MOEF). • It is a nodal agency recognized by the Government of India to handle all issues related to Plastics and Environment in the country. 		
4	<p>Plastindia Foundation (PIF)</p>	<p>Website: www.plastindia.org Telephone: 91 -22 - 26832911 Address: 401, Landmark B, Suren Road, Off Andheri Kurla Road, Andheri (East), Mumbai -400093</p>
<ul style="list-style-type: none"> • Plastindia Foundation is the Apex body of major associations, organisations and institutions connected with plastics. • Plastindia Foundation looks to provide opportunities to demonstrate the industry’s capabilities in International Exhibitions. • The organisation contributes to create policy framework with statutory entities in India. 		



7.0 Major Trade Events

7.0 Major Trade Events

India is a host to one of the top global events in the plastic industry, that is the Plastivision India. Apart from this, the P4 Expo is also a top global event which is held in India.

The major trade events in India are listed below:

Name of the Event	Date	Location	Event Frequency
Plastivision India www.plastivision.org	19-23 rd January 2017	Mumbai	Triennial
P4 Expo India www.p4expoindia.com	3-6 th May 2017	New Delhi	Biennial
Plastasia 2017 www.plastasia.in	8-11 th July 2017	New Delhi	Annual
Plastindia www.plastindia.org	7-12 th February 2018	Gandhinagar	Triennial