

The Lebanese plastic industry is one of the few industries that have been shielded from the morose economic environment. The Syrian crisis, which had ripples on key sectors of the Lebanese economy such as real estate, construction and tourism, did not greatly affect the Plastic industry. In fact, Lebanese plastic companies have their established export markets and local clientele to rely on in addition to numerous industry-related strengths.

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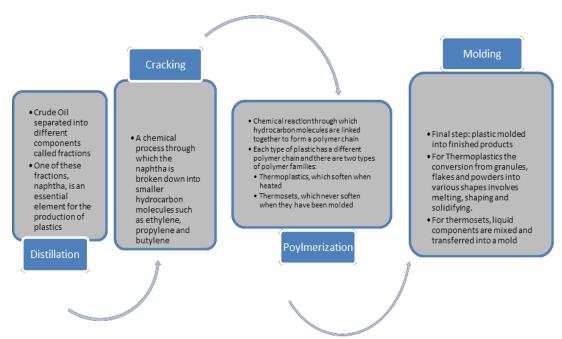
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#### How is Plastic made?



Source: Association of Plastic Manufacturers Plastics Europe

The Lebanese plastic industry holds much strength that certainly outweighs its weaknesses. First and foremost, there is no expiry date on the plastic products. Therefore companies feel no pressure when and if their inventory builds up as they can liquidate their stock at a higher price in the future. Moreover, companies benefit from the fact that all of the scrap plastic is recycled. Most importantly, demand for plastic is highly inelastic and no other substitute is available. For plastic manufacturers, the cost of the needed machines is very affordable and averages \$15,000.



### Strengths and Weaknesses of the Lebanese Plastic Industry

Strengths	Weaknesses
No Available Substitute for Plastic	<ul> <li>Unlawful competition (reported in food packaging segment)</li> </ul>
<ul> <li>No expiry date on plastic products</li> </ul>	<ul> <li>New Law on Syrian Labor</li> </ul>
<ul> <li>Plastic can be recycled and reused</li> </ul>	High Energy Costs
Demand for Plastic is inelastic and is mostly insensitive to downturns in the economic cycle	-
Low cost of machines needed to manufacture plastic	• -
Recent drop in oil prices reduced costs     of raw materials	• -

A sample based on 51 plastic companies registered at the Association of Lebanese Industrialists (ALI) reflects on the product segmentation of the sector. The biggest number of companies are specialized in food packaging (plastic cups, salad boxes, plastic, and cutlery) followed by containers and bottles (water bottles, detergent bottles, water container), next in line are pipes, home furniture, raw materials, agricultural materials, bags, hospital materials and industrial materials. It is worth mentioning that by raw materials we are referring to companies that collect and then recycle scrap from restaurants, garbage...etc.

### Product Segmentation in the Lebanese Plastic Industry

Type of Plastic Product	Number of Registered Companies
Food Packaging: Plastic cups, salad boxes, plastic cutlery	11
Containers and Bottles: water bottles, detergents, water containers	9
Pipes	8
Home Furniture	7
Raw Materials: collecting scrap from restaurants,	6
garbage and then recycling	-
Agricultural Materials	5
Bags	3
Hospital Materials	1
Industrial Materials	1

Source: Association of Lebanese Industrialists

### Types of materials used in plastic manufacturing depending on final use of plastic product

Type of Plastic Product	Type of Materials
Food Packaging: Plastic cups, salad boxes, plastic cutlery	Polyethylene terephthalate (PET), Low density Polyethylene (LDPE), Polypropylene (PP),Polystyrene (PS)
Containers and Bottles: water bottles, detergents, water containers	High Density Polyethylene (HDPE)
Pipes	PVC Polyvinyl chloride
Home Furniture	PVC Polyvinyl chloride
Agricultural Materials	PVC Polyvinyl chloride, Low density Polyethylene (LDPE)
Bags	Low density Polyethylene (LDPE)
Hospital Materials	High Density Polyethylene (HDPE)

Source: Etablissement Fawzi Haddad



The Lebanese market holds both plastic manufacturers and plastic importers and distributors. According to Lebanese customs, in 2014 Lebanon imported \$695.01M worth of raw materials needed for the manufacturing of plastic and finished products. On the other hand exports of both raw materials and finished products totaled \$130.59M.

The plastic market is large in Lebanon if nothing but our net exports of raw materials and finished products totaled - \$565.69M. The net exports of raw materials amounted to - \$353.73M while the net exports of finished products amounted to - \$211.96M.

The major imported items in the plastic category are raw materials. The polymers of ethylene and propylene, which are used across all segments of plastic manufacturing as shown in the table above, hold the largest combined share of 28% in total imports with a value of \$203.12M. 57.82% or \$92.69M of the ethylene polymers originated from Saudi Arabia in 2014 while 14.27% or \$22.88M were imported from Qatar. Saudi Arabia is also the main import source of propylene polymers accounting for 64.57% or \$27.64M of total propylene imports while 23.30% or \$9.97M originated from the UAE.

In 2014, the finished articles of conveyance and packing of goods also hold a sizeable 8% share in total plastic imports with a value of \$57.19M. The main import sources for those articles are Jordan with a 14.45% share or \$8.26M, China with a share of 13.77% or \$7.88M and Turkey with a share of 13.59% or \$7.77M.

As for tubes, hoses and pipes, they constituted 6% or \$44.66M of total plastic imports in 2014. 23.41% or \$10.45M of those items originated from Italy while 15.95% or \$7.12M originated from Turkey.

Meanwhile, the main exported plastic items in 2014 were articles for the conveyance or packing of goods. Their total value amounted to \$29.49M in 2014, representing 23% of total exports. Interestingly, the main export market was Syria with a 15% share in the total or \$4.35M, followed by 12% or \$3.55M for Saudi Arabia and 12% or \$3.48M for Jordan.

The second largest exported items are tableware, kitchenware and other household articles with a share of 9%in total exports. Exports of these items registered a value of \$12.08M in 2014. 16% or \$1.94M were sent to Iraq and 11% or \$1.38M were sent to Saudi Arabia.

Elements on the global markets such as the exchange rate of the euro and oil prices greatly affect the cost structure of Lebanese Plastic companies. If the euro is weak and oil prices are low, the cost of raw materials for manufacturers and the cost of finished product for importers and distributors are pushed downwards.

However, costs are pushed upwards by the hefty spending on energy. The plastic industry is an energy intensive industry especially given the high conversion costs of raw materials into finished plastic products. A recent labor law has also weighed on the costs of plastic factories. As of 2014, companies were compelled to guarantee each Syrian worker they employ. The guarantee costs around \$1,000/year/worker and must be renewed each year.

Although the plastic industry benefits from much strength, it suffers from the unlawful competition on the Lebanese market. According to a market source, certain plastic factories infiltrated the market and lowered prices as they were not paying their taxes. This compelled legal factories to secure a proper mark-up by tapping into foreign markets. Companies such as Etablissement Fawzi Haddad tapped into Gabon, Niger, Ivory Coast and the Democratic Republic of Congo. The company states that one of the benefits of tapping into foreign markets is the fact that no sales on credit occur.

In the biggest segment of the industry, which is food packaging, the biggest players are General Packaging Industries (GPI), Bekaplast and Somoplast. The market's dynamics between these players are smooth. According to a market source, each plastic company on the Lebanese market has its own known-clients and operating strategy. The pricing system is highly dependent on the quality of the offered product and on the targeted clientele. It has been reported that the average mark-up on the market is around 17%. The pricing also varies whether or not intermediaries are involved. The price is surely lower when intermediaries are involved to guarantee profit for the middle-man.



As for the market of plastic pipes in Lebanon, different companies meet the demand of different areas on the Lebanese territory. Dagher Plast covers the demand for pipes in Mount Lebanon, Beirut, and the north while Haykal Plast and Plastypipe cover the regions of Bekaa and the south.

The large-sized plastic pipe companies in Lebanon import raw materials and then manufacture the pipes at home and even supply the smaller companies with the finished pipes. The most important raw material that is imported is PVC resin, to which are added pigments and additives in the manufacturing process. The source of the PVC resin differs from one company to the other. Per example, Dagher Plast imports PVC resin from Europe and China while Haykal Plast acquires the raw material from the United States, The Kingdom of Saudi Arabia and France. Interestingly, the United States became the top provider of PVC resin instead of the Kingdom of Saudi Arabia after the Syrian crisis disrupted land trade routes.

PVC pipes have multiple uses and different clienteles. According to market sources, the pipes can be used for drainage and sewage, water conveyance, soil and waste discharge within the building structure. There are also PVC accessories such as PVC fittings which constitute sockets for the PVC pipes. The main clients for these products are construction sites and public works. Market sources have also noted that demand for these products has remained robust and on an upward trend despite the overall economic downturn due to the inelastic and un-substitutable nature of plastic pipes' demand.

The pricing on the market is dependent on the thickness of the pipes. For a 6 meter-long pipe with a thickness of 2.4 mm the price is at \$6 while for a 6 meter-long pipe with a thickness of 7.7 mm the price surges to \$115.

For plastic food packaging companies and plastic pipe companies alike, oil prices and the exchange rate of the euro hold a great influence on costs and profits. Plastic pipe companies benefit in the cases where the purchase of raw materials has been made with a devalued euro and where the selling of the goods on the local market occurs when the euro has appreciated and vice-versa. Pipe manufacturers have also confirmed the positive influence lower oil prices had on their costs but no figures were released for confidentiality purposes.

Lebanese plastic pipe manufacturers have tapped into foreign markets. Per example, Dagher Plast mainly exports PVC accessories such as PVC fittings and most recently tapped into the Iraqi market. Meanwhile, Haykal Plast reported exports to African countries.

For polyethylene agricultural films, the largest manufacturer in Lebanon is Masterpack, member of Indevco Group. Masterpack holds 90% of the Lebanese market and estimates the size of the market to be between \$10M to \$12M. Masterpack imports polyethylene resin in order to manufacture the agricultural films in Lebanon. The main import source is the Saudi Arabian company SABIC. Commenting on the effect of lower oil prices, a source from Masterpack highlighted that although lower oil prices meant lower prices of raw materials it also meant that the selling prices of the finished films had to be lower in order to "follow the market". The price of agricultural films ranges from \$2 per kg to \$3.5/\$4 per kg and is considered to be competitive. It's this competitiveness that allows Masterpack to export 70% of its annual turnover or around 23,000 MT to over 68 countries in the Middle East, Europe, Asia, Australasia and Africa.



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