PAGEV

TURKISH PLASTICS INDUSTRY FOLLOW-UP REPORT

2023/9

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PREFACE

The plastics industry is one of the most important actors of the Turkish economy. Today, the contribution of the plastics industry to the country's economy is increasing, with a total production exceeding 11 million tons, a turnover approaching 45 billion dollars, direct product exports exceeding 8 billion dollars, and an annual growth exceeding the GNP growth in the last 10 years. Our sector has risen to second place in Europe and sixth place in the world with the production capacity it has reached. As PAGEV, we are implementing projects that will carry our industry, which continues its way successfully, forward within the framework of our mission as the "Unifying Power" of the Turkish Plastics Industry.

We know that having accurate and reliable data and information is the most important part of the solution, while we are working to solve our sector problems with concrete steps based on scientific data that reveal the indispensability of plastic in our lives. In this direction, we are constantly researching, collecting, compiling, and reporting new data. We present our reports and booklets containing valuable information, which we believe to be important for the development of our industry, to the benefit of our plastics industry representatives, stakeholders, and public institutions.

As a result of our long and devoted research, we have prepared a set of reports that will make a significant contribution to our industry. With our reports, we have turned the Turkish Plastics Industry into booklets with the comments of our expert rapporteurs on where the Turkish Plastics Industry is in the light of accurate and reliable data, its common problems and what concrete solutions should be sought. We believe that our report and information set, which we offer for the benefit of all our stakeholders, especially our members, will shape the world of plastics. With these efforts, we are also happy to ensure that our public institutions have access to the most up-to-date data and accurate information about the plastics industry.

In addition, we believe that our colleagues will be able to share the potential of our country's plastics industry with their business partners in the global market with the most up-to-date data with our sector reports we have prepared in English.

On this occasion, we would like to present to you our current reports and information files with our sector, which are included in our file that we share with you, and we would like to thank all our colleagues who have contributed to the development of our sector, which has undertaken a locomotive mission in the development of our country.

Best regards,
Yavuz EROĞLU
PAGEV President

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EXECUTIVE SUMMARY

capacity utilization in the plastics industry decreased from 75.6% in the January-September period of 2022 to 75.5% in the January-September period of 2023 and decreasing by 0.1 points.

In the January-September period of 2023, compared to the same period of 2022, based on quantity in the plastic end- product sector; Production increased by 3.9%, imports increased by 8.4%, exports decreased by 7.9%, domestic consumption increased by 7.9%, foreign trade surplus decreased by 13.8%.

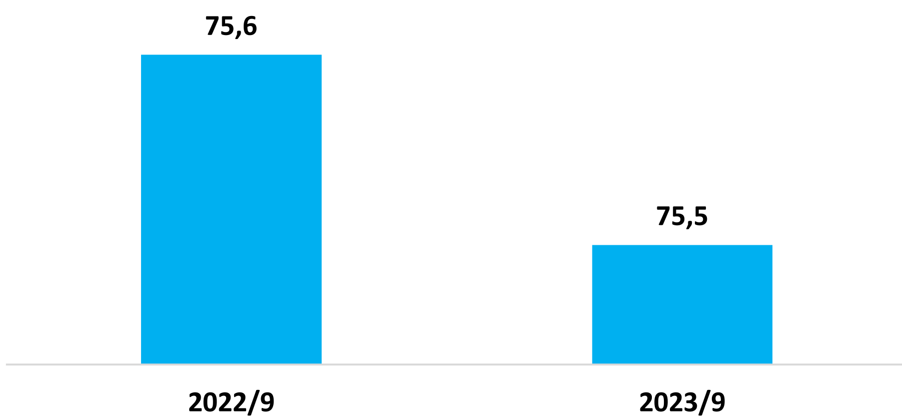
While the share of exports in production was 25% in the January-September period of 2022, it decreased to 22% in the same period of 2023. On the other hand, the share of imports in domestic consumption remained 22% in both periods.

If the realization trend in the 9-month period continues in the remaining months of the year, at the end of 2023 compared to 2022, based on quantity; Production is expected to increase by 6.3%, imports by 9.4%, exports decrease by 7.8%, domestic consumption increase by 10.9% and foreign trade surplus decrease by 14%. If the 9-month trend of 2023 continues, it is estimated that product production will reach the highest level in its history, such as 11.2 million tons, by the end of 2023.

On the other hand, in 2023, it is estimated that the sector will reach the highest import and domestic consumption levels in its history.

1. CAPACITY UTILIZATION

According to CBRT (Central Bank of the Republic of Turkey) sources, capacity utilization in the plastics industry decreased from 75.6% in the January-September period of 2022 to 75.5% in the January-September period of 2023 and decreasing by 0.1 points.



Graphic 1: Capacity Utilization Rate in Plastics End-Products Industry (%)
Source : Turkish Republic Central Bank

2. PMI INDEX

- The Turkish Manufacturing PMI index fell to 49.0 in August, its lowest level since December 2022.
- The index, which has been below the threshold for two consecutive months, shows that the weak course in the manufacturing industry continues.
- In this period, the index recorded the fastest contraction since February in parallel with the slowdown in new orders caused by production activities, cost pressures and price increases.
- The rise in employment volume continued in August, albeit at a slower pace.
- In this period, the volume of production contracted in six out of ten sectors.

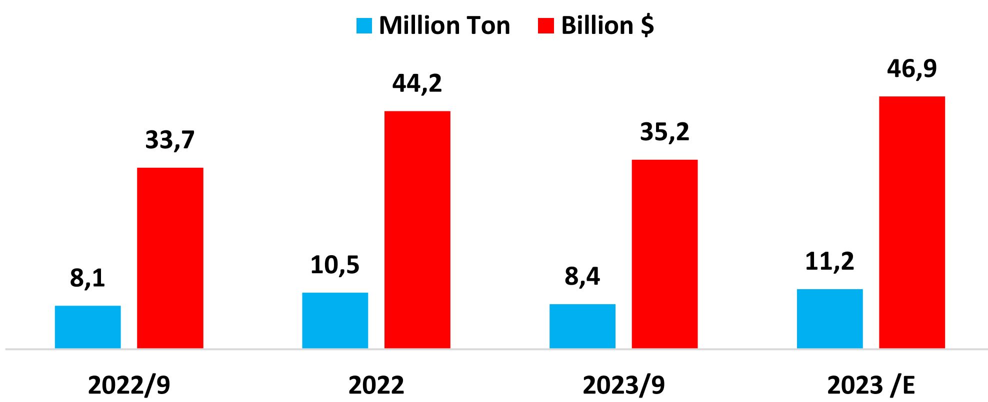
3. PRODUCTION

In the 9 months of 2023, plastic end- product production increased by 3.9% based on quantity and 4.4% based on value compared to the same period of the previous year and amounted to 8.4 million tons and 35.2 billion dollars. Considering the realizations of the 9 months of the year, it is estimated that production in 2023 will increase by 6.3% based on quantity and 6.2% based on value compared to 2022 and will be realized as 11.2 million tons and 46.9 billion dollars.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
Million Ton	8,1	10,5	8,4	11,2	3,9	6,3
Billion $	33,7	44,2	35,2	46,9	4,4	6,2

Table 1: Plastic End-Product Production

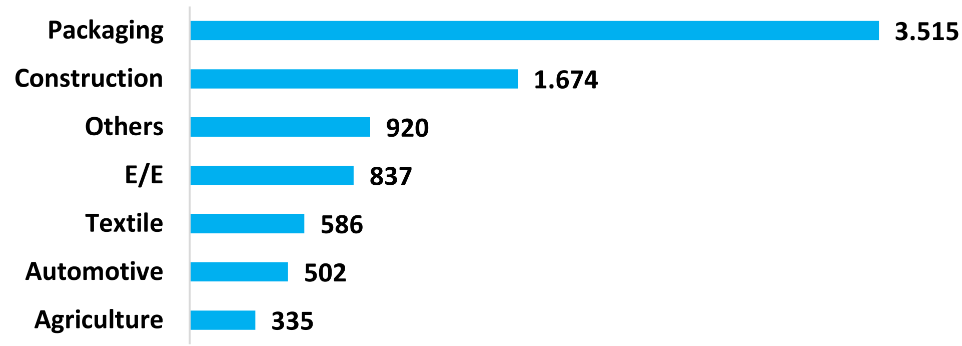
Source: Turk Stat and ITC Trade Statistics



Graphic 3: Plastic -End Product Production

Source: Turk Stat and ITC Trade Statistics

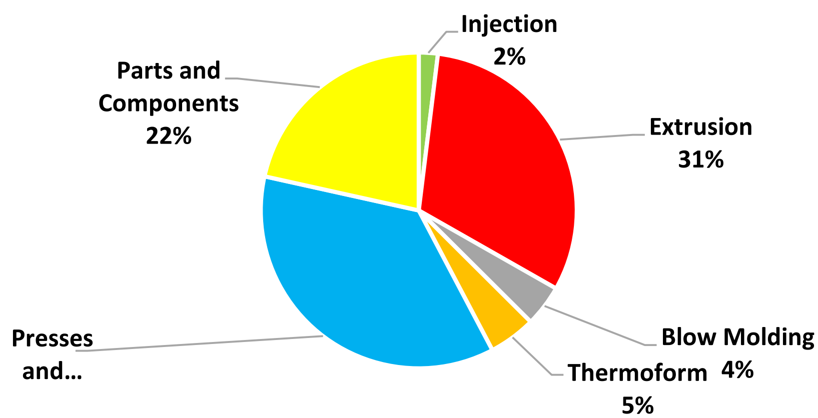
In the third quarter of 2023, it is seen that plastic packaging materials lead the way with approximately 3.52 million tons of total plastic end-product production of 8.4 million tons, followed by plastic construction materials with 1 million 674 thousand tons.



Graphic 4: Plastic End- Product Production by Sub-Sectors – (1000 Tons) 2023/9 Months
Source: Turk Stat and ITC Trade Statistics

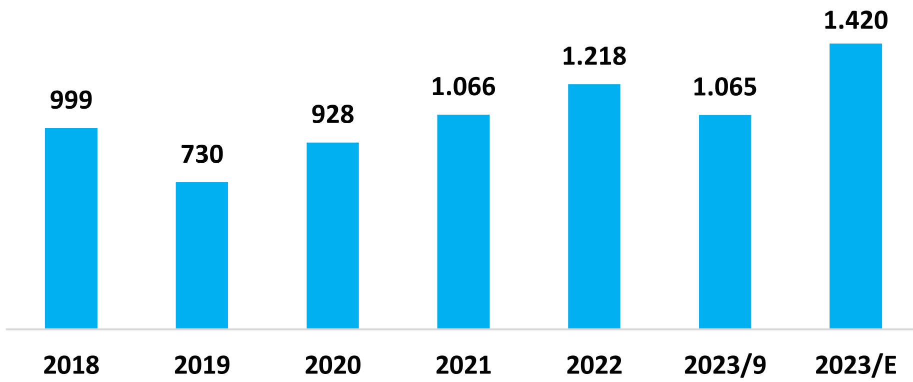
4. MACHINERY EQUIPMENT INVESTMENT

In the period covering the years 2018 – 2022, the plastics industry invested an average of 915 million dollars in machinery and equipment per year, and 36% of the total investment was presses and other machines, 2% injection, 31% extrusion, 5% thermoforming, 4% blow molding and 22% parts and components.



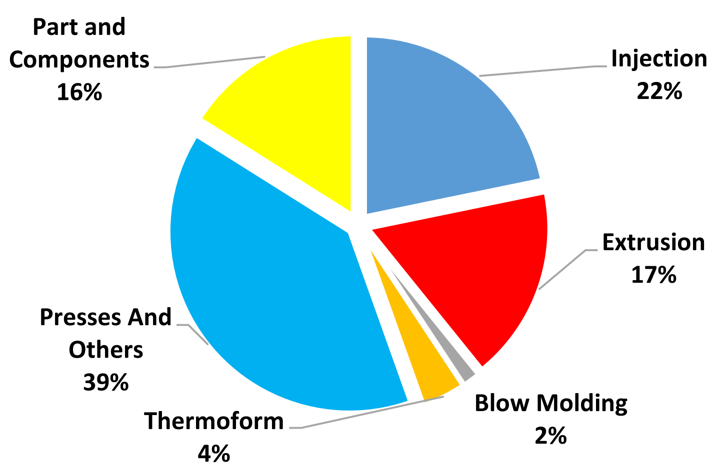
Graphic 5: % Distribution of Machinery Investment in the Last 5 Years of the Sector
Source: Turk Stat and ITC Trade Statistics

In the third quarter of 2023, the machinery and equipment investment of the plastics industry increased by 24% compared to the same period of 2022. Machinery and equipment investment, which was 1 billion 65 million dollars in the third quarter of the year, is expected to increase to 1 billion 420 million dollars by the end of 2023 and increase by 48% compared to 2022.



Graphic 6: Machinery and Equipment Investment of the Plastics End -Product Industry (Million $)
Source: Turk Stat and ITC Trade Statistics

In the third quarter of 2023, injection machines had a 22% share in the total machinery investments of the plastics industry, extrusion machines had a share of 17%, blow molding machines had a share of 2%, thermoforming machines had a share of 4%, presses and other machines had a share of 39%, and components and parts had a share of 16%.



Graphic 7: Machinery and Equipment Investment Made by the Plastics End-Products Industry (2023/9)
Source: Turk Stat and ITC Trade Statistics

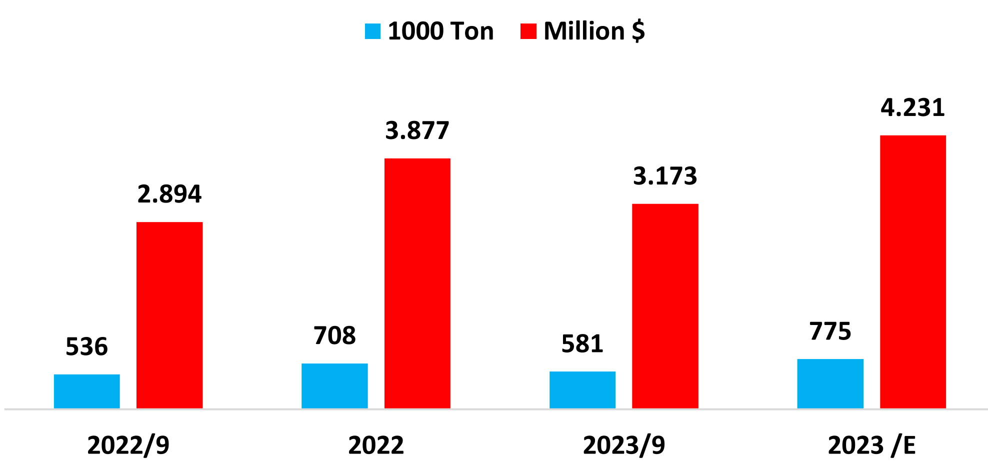
5. FOREIGN TRADE

5.1. IMPORTS

In the 9 months of 2023, compared to the same period of the previous year, plastic end-product imports increased by 8.4% based on quantity and 9.6% based on value and amounted to 581 thousand tons and 3 billion 173 million dollars. Considering the realizations of the 9 months of the year, it is estimated that imports in 2023 will increase by 9.4% based on quantity and 9.1% based on value compared to 2022 and will be realized as 775 thousand tons and 4.23 billion dollars.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
1000 Ton	536	708	581	775	8,4	9,4
Million $	2.894	3.877	3.173	4.231	9,6	9,1

Table 2: Plastic End-Product Imports
Source: Turk Stat and ITC Trade Statistics



Graphic 8: Import of Plastics End-Products
Source: Turk Stat and ITC Trade Statistics

In the third quarter of 2023, the highest imports in terms of quantity and value were in the product group with GTIP number 3920 (other sheets, sheets, pellicles, foils, and slides made of plastic). Imports of the products included in this HS Code constituted 46.2% of the total plastic product imports based on quantity and 31.1% based on value.

HS CODE	HS CODE DEFINATION	1000 Ton	Ton %	Million $	Value- %
3916	Monofilament, bar, profiles from plastic-cross section over 1mm	9	1,6	55	1,7
3917	Tubes, pipes, hoses from plastic; gasket, elbow, union etc.	31	5,3	294	9,3
3918	Floor coverings from plastic – incl. wall and ceiling coverings	23	3,9	75	2,4
3919	adhesive plate, sheet, strip, slide, etc. from plastic; flat	45	7,7	287	9,1
3920	Other plate, sheet, pellicles, and slides from plastic	268	46,2	987	31,1
3921	Other plates, sheets, pellicles, foils, and slides from plastic	60	10,3	269	8,5
3922	Bathtub, shower, sink, bidet, water-closet pan, and hardware from plastic	4	0,6	27	0,9
3923	Plastic products for moving furniture, tap, cap, capsule	72	12,4	388	12,2
3924	Table, kitchen and other household furniture, toiletry form plastic	11	1,9	60	1,9
3925	Construction materials from plastic	5	0,9	29	0,9
3926	Other goods from plastic	54	9,3	700	22,1
	TOTAL	581	100,0	3.173	100,0

Table 3: Import of Plastic End-Products by HS Code (2023/9)

Source: Turk Stat and ITC Trade Statistics

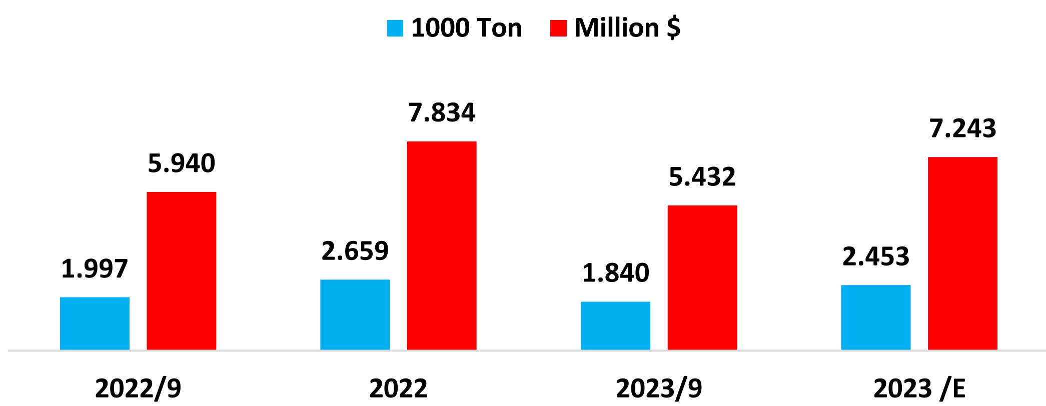
5.2. EXPORTS

In the 9 months of 2023, exports of plastic products decreased by 7.9% based on quantity and 8.6% based on value compared to the same period of the previous year and amounted to 1 million 840 thousand tons and 5 billion 432 million dollars. Considering the realizations of the 9 months of the year, it is estimated that exports in 2023 will increase by 3.8% based on quantity and decrease by 7.5% based on dollars compared to 2022 and will be realized as 2 million 760 thousand tons and 7.24 billion dollars.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
1000 Ton	1.997	2.659	1.840	2.760	-7,9	3,8
Million $	5.940	7.834	5.432	7.243	-8,6	-7,5

Table 4: Plastic End-Product Exports

Source: Turk Stat and ITC Trade Statistics



Graphic 9: Plastic End-Product Exports
Source: Turk Stat and ITC Trade Statistics

In the third quarter of 2023, the largest exports in terms of quantity and value were realized in the product groups in the 3920 (other sheets, sheets, pellicles, and slides made of plastic) and 3923 (plastic products for goods transport packaging, stoppers, caps, capsules) HS Codes. Exports of these products in these HS Codes groups accounted for 46.5% of total plastic product exports based on quantity and 43.4% based on value.

HS CODE	HS CODE DEFINATION	1000 Ton	Ton % Change	Million $	Value- % Change
3916	Monofilament, bar, profiles from plastic-cross section over 1mm	151	8,2	313	5,8
3917	Tubes, pipes, hoses from plastic; gasket, elbow, union etc.	234	12,7	630	11,6
3918	Floor coverings from plastic – incl. wall and ceiling coverings	47	2,5	74	1,4
3919	adhesive plate, sheet, strip, slide, etc. from plastic; flat	20	1,1	126	2,3
3920	Other plate, sheet, pellicles, and slides from plastic	494	26,9	1.377	25,4
3921	Other plates, sheets, pellicles, foils, and slides from plastic	164	8,9	533	9,8
3922	Bathtub, shower, sink, bidet, water-closet pan, and hardware from plastic	29	1,6	136	2,5
3923	Plastic products for moving furniture, tap, cap, capsule	360	19,6	976	18,0
3924	Table, kitchen and other household furniture, toiletry form plastic	159	8,6	509	9,4
3925	Construction materials from plastic	104	5,7	310	5,7
3926	Other goods from plastic	77	4,2	448	8,2
	TOTAL	1.840	100,0	5.432	100,0

Table 5: Export of Plastic End-Products by HS Code (2023/9)
Source: Turk Stat and ITC Trade Statistics

According to IMMIB (İstanbul mineral and metals exporters' association) data, Exports of Plastic and Plastic End-Products (total of plastic raw materials and plastic products) amounted to 6 billion

864 million dollars in the January-September period of 2023 and decreased by 12.1% compared to the same period of 2022.

The share of the plastics industry in chemical industry exports, which was 30.4% in the January-September period of 2022, increased to 30.8% in the same period of 2023 and maintained its first place in chemical industry exports.

	Million $			% Change	
PRODUCTS GROUP	2022/9	2023/9	(%) (E)	2022/9	2023/9
PLASTICS & PRODUCTS	7.808	6.864	-12,1	30,4	30,8
MINERAL FUELS, MINERAL OILS AND PRODUCTS	7.868	5.667	-28,0	30,6	25,4
INORGANIC CHEMICALS	2.358	2.129	-9,7	9,2	9,6
RUBBER, RUBBER GOODS	1.189	1.415	19,1	4,6	6,4
ESSENTIAL OILS, COSMETICS AND SOAP	1.162	1.192	2,6	4,5	5,4
PHARMACEUTICAL PRODUCTS	1.042	1.120	7,5	4,1	5,0
MISCELLANEOUS CHEMICAL SUBSTANCES	1.046	1.108	5,9	4,1	5,0
PAINT, VARNISH, INK AND PREPARATIONS	849	859	1,2	3,3	3,9
ORGANIC CHEMICALS	880	693	-21,2	3,4	3,1
WASHING ENTITIES	527	632	20,0	2,1	2,8
FERTILIZERS	333	367	10,0	1,3	1,6
ADHESIVES, GLUES, ENZYMES	597	202	-66,1	2,3	0,9
GUNPOWDER, EXPLOSIVES AND DERIVATIVES	16	16	2,4	0,1	0,1
PRODUCT USED IN PHOTOGRAPHY AND CINEMA.	9	13	40,3	0,0	0,1
GLYCERIN, VEGETABLE PRODUCTS, DEGRA, OILY SUBSTANCES	5	2	-62,8	0,0	0,0
PROCESSED AMYANT AND ITS MIXTURES, PRODUCTS	0	0	94,1	0,0	0,0
OVERALL TOTAL	25.689	22.280	**-13,3**	**100,0**	**100,0**

Source: IMMİB - İstanbul mineral and metals exporters' association

5.3. IMPORT AND EXPORT BY COUNTRIES

While Turkey imports plastic products from more than 100 countries every year, it exports plastic products to nearly 200 countries.

In the third quarter of 2023, imports from 10 countries accounted for 69.3% of total imports in terms of quantity and 76.7% in terms of value. In this period, it is seen that China took the highest share I Turkey's plastic product imports, with a share of 29,1% based on tons and 20.1% based on value, taking a share of Turkey's total plastic product imports. Apart from China, Germany, Italy, South Korea, and France maintain their position as the largest importers of plastic products.

In the said period, exports to 10 countries accounted for 49.1% of total exports in terms of quantity and 46.1% in terms of value. In this period, Iraq, U.K, Israel, Germany, and Italy constituted Turkey's largest export markets for plastic end-products.

Imports					Exports				
	1000 Ton	% Ton	Million $	% Value		1000 Ton	% Ton	Million $	% Value
China	169	29,1	646	20,4	Iraq	167	9,1	338	6,2
Germany	78	13,4	576	18,1	U.K.	140	7,6	371	6,8
Italy	51	8,8	356	11,2	Israel	113	6,1	266	4,9
S.Korea	38	6,5	194	6,1	Germany	98	5,3	393	7,2
France	24	4,2	156	4,9	Italy	84	4,6	232	4,3
Belgium	20	3,4	100	3,1	USA	71	3,9	235	4,3
Egypt	19	3,3	37	1,2	Romain	70	3,8	203	3,7
Iran	17	2,9	23	0,7	Spain	55	3,0	158	2,9
Russian Fed.	16	2,8	29	0,9	Libya	53	2,9	117	2,2
Spain	14	2,3	83	2,6	France	52	2,8	193	3,5
10 Countries	**446**	**76,7**	**2.200**	**69,3**	**10 Countries**	**904**	**49,1**	**2.505**	**46,1**
Others	**136**	**23,3**	**973**	**30,7**	**Others**	**936**	**50,9**	**2.927**	**53,9**
Total	**581**	**100,0**	**3.173**	**100,0**	**Total**	**1.840**	**100,0**	**5.432**	**100,0**

Table 6: Import and Export of Plastic End- Products by Countries (2023/9)

Source: Turk Stat and ITC Trade Statistics

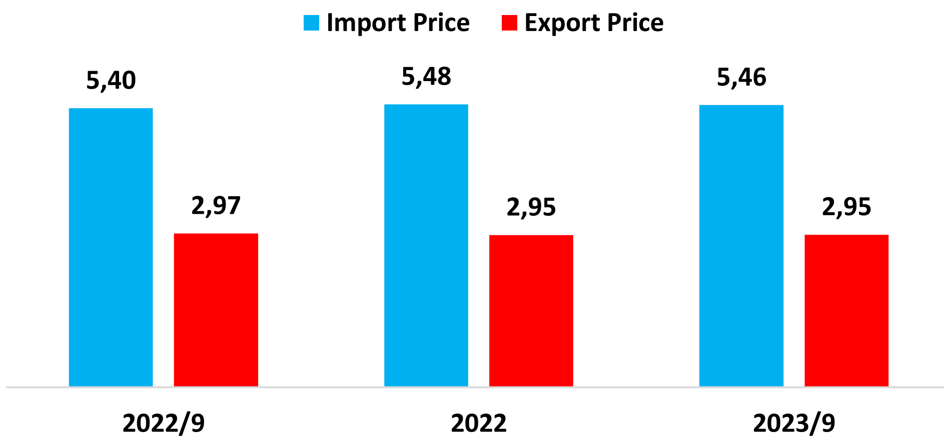
5.4. FOREIGN TRADE PRICES

Unit import prices of plastic products are always above unit export prices. In the third quarter of 2023, average import prices of plastic products were $5.46/Kg and average export prices were $2.95/Kg, while the average import price increased by 1.1% and the average export price decreased by 0.7% compared to the corresponding period of 2022.

	2022/9	2022	2023/9	% Change 2023/2022 (9 M)
Imports Price	5,40	5,48	5,46	1,1
Exports Price	2,97	2,95	2,95	-0,7

Table 7: Plastic End-Products Average Foreign Trade Prices ($/Kg)

Source: Turk Stat and ITC Trade Statistics



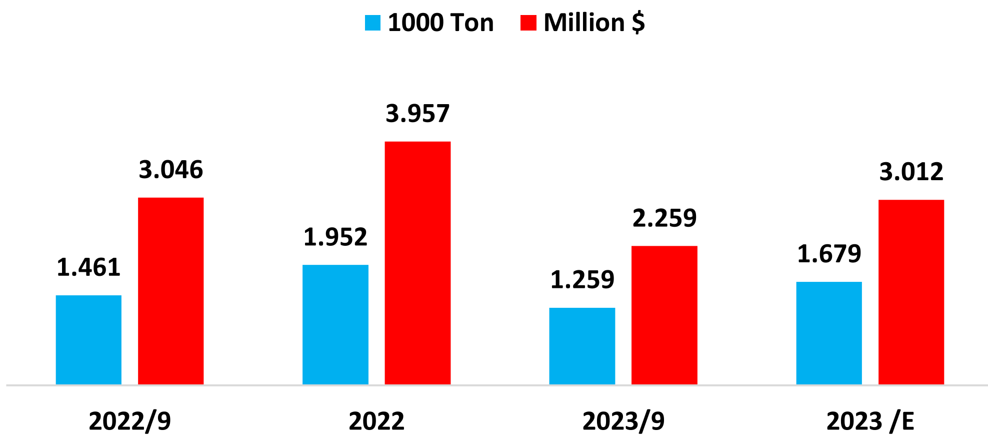
Graphic 10: Average Foreign Trade Prices of Plastic End-Products ($/kg)
Source: Turk Stat and ITC Trade Statistics

5.5. FOREIGN TRADE BALANCE

Turkey always gives a surplus in foreign trade of plastic products. In the third quarter of 2023, there was a foreign trade surplus of 1 million 259 thousand tons and 2 billion 259 million dollars in the plastic end-product sector. Foreign trade surplus decreased by 13.8% in terms of quantity and by 25.8% in terms of value compared to the same period of 2022. The foreign trade surplus is expected to decrease by 3.2% in terms of quantity and 23.9% in terms of value in 2023 compared to 2022 and to increase to 1.89 million tons and 3.01 billion dollars.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
1000 Ton	1.461	1.952	1.259	1.889	-13,8	-3,2
Million $	3.046	3.957	2.259	3.012	-25,8	-23,9

Table 8: Foreign Trade Balance in Plastic End-Products
Source: Turk Stat and ITC Trade Statistics



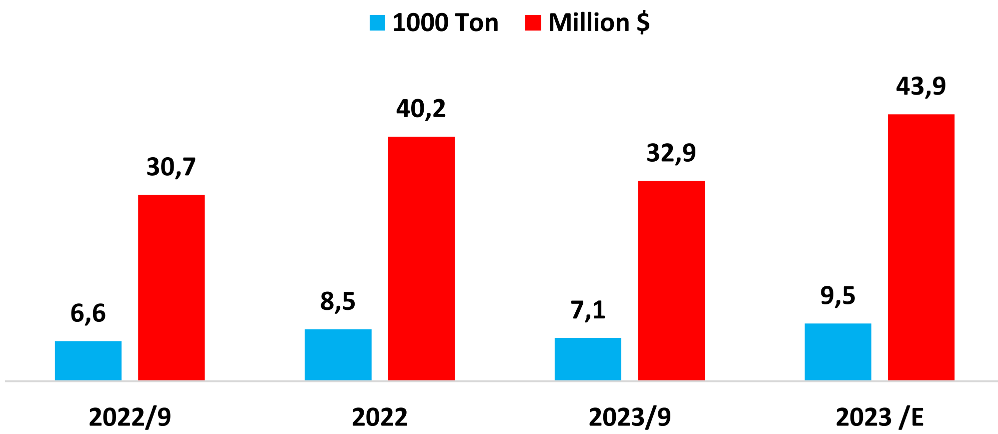
Graphic 11: Foreign Trade Surplus in Plastic End-Products
Source: Turk Stat and ITC Trade Statistics

6. DOMESTIC MARKET CONSUMPTION

In the 9 months of 2023, compared to the same period of the previous year, the domestic market demand for plastic products increased by 7.9% based on quantity and by 7.5% based on value and amounted to 7.1 million tons and 32.9 billion dollars. Considering the realizations of the 9 months of the year, it is estimated that domestic consumption in 2023 will increase by 24.8% based on quantity and 9.1% based on value compared to 2022 and will be realized as 10.7 million tons and 43.9 billion dollars.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
Million Ton	6,6	8,5	7,1	10,7	7,9	24,8
Billion $	30,7	40,2	32,9	43,9	7,5	9,1

Table 9: Domestic Market Consumption in Plastic End-Products
Source: Turk Stat and ITC Trade Statistics



Graphic 12: Plastic End-Product Domestic Consumption
Source: Turk Stat and ITC Trade Statistics

Approximately 3.5 million tons of the 7.1 million tons of plastic product domestic consumption in the third quarter of 2023 was indirectly exported in the form of semi-finished and finished products through exporting sectors such as automotive, packaging, construction, and electronics. The domestic market directly consumed the remaining 3.6 million tons.

7. SUPPLY AND DEMAND BALANCE AND EXPECTATIONS FOR 2023

In the January-September period of 2023, compared to the same period of 2022, based on quantity in the plastic end- product sector; Production increased by 3.9%, imports increased by 8.4%, exports decreased by 7.9%, domestic consumption increased by 7.9%, foreign trade surplus decreased by 13.8%. While the share of exports in production was 25% in the January-September period of 2022, it decreased to 22% in the same period of 2023. On the other hand, the share of imports in domestic consumption remained 22% in both periods.

If the realization trend in the 9-month period continues in the remaining months of the year, at the end of 2023 compared to 2022, based on quantity; Production is expected to increase by 6.3%, imports by 9.4%, exports decrease by 7.8%, domestic consumption increase by 10.9% and foreign trade surplus decrease by 14%. If the 9-month trend of 2023 continues, it is estimated that product production will reach the highest level in its history, such as 11.2 million tons, by the end of 2023. On the other hand, in 2023, it is estimated that the sector will reach the highest import and domestic consumption levels in its history.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
Production	8.050	10.497	8.368	11.158	3,9	6,3
Imports	536	708	581	775	8,4	9,4
Exports	1.997	2.659	1.840	2.453	-7,9	-7,8
Domestic Consumption	6.589	8.546	7.109	9.479	7,9	10,9
Foreign Trade Deficit / Surplus	1.461	1.952	1.259	1.679	-13,8	-14,0
Exports / Production (%)	25	25	22	22		
Imports / Domestic Consumption (%)	8	8	8	8		

Table 10: Plastic End-Products Supply and Demand Equilibrium (1000 Ton)
Source: Turk Stat and ITC Trade Statistics

In the January-September period of 2023, compared to the same period of 2022, based on value in the plastic product sector; Production increased by 4.4%, imports increased by 9.6%, exports decreased by 8.6%, domestic consumption increased by 7.5%, foreign trade surplus decreased by 25.8%. In this period, 15% of the production in terms of value was exported and 85% was consumed in the domestic market, and 10% of domestic consumption was met by imports.

If the realization trend in the first 9 months continues in the remaining months of the year, at the end of 2023 compared to 2022, based on value; Production is expected to increase by 6.2%, imports by 9.1%, exports decrease by 7.5%, domestic consumption by 9.1%, foreign trade surplus decrease by 23.9%. If the trend in the first 9 months of 2023 continues, it is estimated that by the end of 2023, product production will reach the highest level in its history, such as 46.9 billion dollars in terms of value.

On the other hand, it is estimated that in 2023, the sector will reach the highest import and domestic consumption levels in its history in terms of value.

	2022/9	2022	2023/9	2023/T	% Change 2023/2022 (9 M)	% Change 2023/2022 (E)
Production	33.706	44.204	35.203	46.937	4,4	6,2
Imports	2.894	3.877	3.173	4.231	9,6	9,1
Exports	5.940	7.834	5.432	7.243	-8,6	-7,5
Domestic Consumption	30.660	40.247	32.944	43.925	7,5	9,1
Foreign Trade Deficit / Surplus	3.046	3.957	2.259	3.012	-25,8	-23,9
Exports / Production (%)	18	18	15	15		
Imports / Domestic Consumption (%)	9	10	10	10		

Table 11: Plastic End-Products Supply and Demand Equilibrium (Million $)
Source: Turk Stat and ITC Trade Statistics


BİLİNÇLİ BİR TOPLUM
AYDINLIK BİR GELECEK
GÜZEL BİR ÜLKE VE
DAHA YAŞANILABİLİR
BİR DÜNYA İÇİN
AMBALAJ ATIKLARINI
KAYNAĞINDA
DOĞRU AYRIŞTIRARAK
GERİ DÖNÜŞÜME SEN DE
DESTEK OL
PAGÇEV
PAGÇEV
PAGÇEV, T.C. Çevre ve Şehircilik Bakanlığı tarafından


PLASTİK SEKTÖRÜNÜN
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