POLAND'S PACKAGING INDUSTRY

Polish Information and Foreign Investment Agency
www.paiz.gov.pl

1. The packaging market in Poland

- It can be estimated on the basis of the foreign trade balance and the value of sold production that the Polish packaging market was worth about USD 3.8 billion (EUR 3.0 billion) in 2005. In comparison with the end of 2004 the market's value rose by 17.4% in USD, by 4.2% in PLN, and by 17.4% in EUR. These differences in the packaging market's growth rates can be attributed to the strengthening of the zloty in relation to the dollar which occurred in 2002-2005; estimates are based on the average annual exchange rates of the National Bank of Poland (NBP).
- Estimated in tonnes, the Polish packaging market grew by approximately 9%, to 3.8-3.9 million tonnes (estimates based on data from the Central Statistical Office – GUS).
- The continuing high rate of growth of the packaging market is largely attributable to the general growth in consumption and improvement in the profile of consumption, as well as improvement in the quality of various types of packaging. The per capita consumption of packaging in Poland does not exceed 100 kg annually, including 25 kg of glass packaging (according to the Polish Packaging Research and Development Centre – COBRO). In the countries of Western Europe this index is almost 1.5 times higher; they consume around 150-170 kg annually per capita.

2. The packaging sector in Poland

- The Polish packaging sector generated 1.6% of Poland's gross domestic product in 2005. In other developed countries this index ranges from 1.5% to 2.5%.
- The packaging sector's share in 2005 in the sold production of the Polish processing industry was 2.58%.
- Share of packaging in the value of total output of selected industry sectors in 2005:

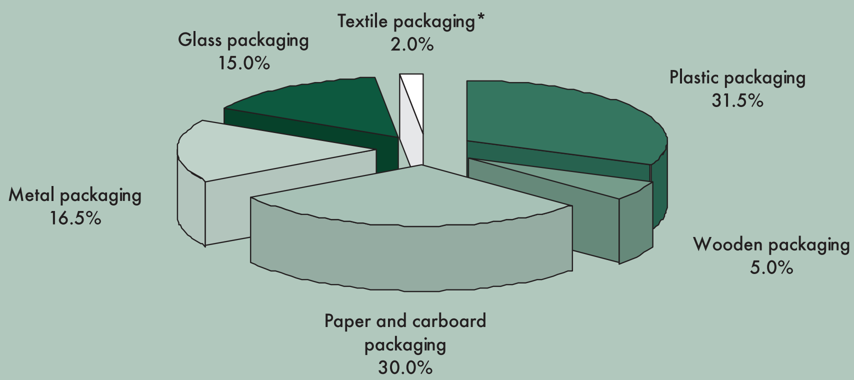
3. Producers of packaging

- According to GUS data, there were around 10,000 manufacturers of packaging registered in Poland in the 4th quarter of 2005. About 1,300 of these manufacturers are legal entities, whereas close to 8,500 are natural persons.
- The largest producers of packaging, often supported by foreign capital, have financial resources sufficient to purchase the latest technologies and the most efficient technological lines. Besides the low production costs ensured by modern technology, large producers benefit from long-term contracts for delivery of packaging, concluded with major buyers. This leads to gradual consolidation of the packaging market and is the key reason for the decrease in the number of producers on the market, from 10,022 registered in mid-2004 to 9,766 in the 4th quarter of 2005.

Sector	Percentage share in 2005
Timber and wood products:	100.0
• wooden packaging	6.0
Rubber and cardboard products:	100.0
• paper and corrugated cardboard, and paper and cardboard packaging	30.2
Rubber and plastic goods:	100.0
• plastic packaging	18.6
Products made of other non-metal raw materials:	100.0
• glass packaging	10.0
Finished metal goods:	100.0
• metal containers	1.6
• packaging made of light metals	7.9

Source: GUS

PROFILE OF THE SOLD PRODUCTION OF PACKAGING IN 2005 IN TERMS OF VALUE



* Data relating to the sold production of textile packaging are not included in the official statistics. These estimates are based on statistics for Polish foreign trade and information published by the trade monthly *Opakowanie.*

Source: GUS, Opakowanie monthly

REGISTERED ENTERPRISES PRODUCING PACKAGING IN 4TH QUARTER 2005

Group of producers	Natural persons	Legal entities	Total
Wooden packaging	3,607	242	3,849
Paper and cardboard packaging	1,503	377	188
Plastic packaging	2,466	485	2,951
Glass packaging	605	102	707
Metal containers	225	78	303
Packaging made of light metals	46	30	76
Producers jointly	8,452	1,314	9,766

Source: GUS

PRODUCTION OF PRINCIPAL TYPES OF PACKAGING

Product	Unit	2000	2001	2002	2003	2004	2005
Textile packaging:							
sacks and bags used as packaging	Thousand tonnes	7.0	7.0	6.7	7.0	7.2	6.4
Paper and cardboard packaging:							
non-coated packaging paper	Thousand tonnes	555.8	624.2	620.2	674.6	723.9	746.9
crepe and crinkled paper used in the production of sacks	Thousand tonnes	172.2	146.0	158.9	160.6	141.4	153.0
paper sacks and bags	Thousand tonnes	82.8	82.8	74.2	83.8	86.3	89.6
• including paper bags	Thousand tonnes	75.3	62.2	55.9	59.3	58.2	74.9
boxes made of paper or corrugated cardboard	Thousand tonnes	583.2	628.8	711.3	798.5	926.2	1,154.6
Plastic packaging:							
boxes made of paper or corrugated cardboard	Thousand tonnes	138.7	142.3	94.0	100.8	119.4	121.6
Glass packaging:							
bottles and other containers made of transparent glass	Million pieces	1,166.0	1,226.9	1,437.3	1,512.7	1.748	1,698.9
bottles and other containers made of coloured glass	Million pieces	1,008.4	917.9	791.6	721.1	827.7	860.4
Metal packaging:							
light cans made of tinplate, used for canned foods and beverages	Thousand tonnes	43.2	45.8	41.3	38.4	31.5	32.3
metal cans other than those used for canned foods and beverages	Thousand tonnes	7.9	5.4	9.0	10.2	9.7	10.7

Source: GUS

SOLD PRODUCTION OF PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN billion)	9.6	10.2	11.2	13.1	14.7	15.3
Growth rate in current prices (previous year = 100)	n.a.	106.4	109.8	116.5	112.2	104.1
Sold production (USD billion)	2.2	2.5	2.8	3.4	4.0	4.7
Growth rate in current prices (previous year = 100)	n.a.	112.9	110.3	120.1	135.6	117.4
Sold production (EUR billion)	2.4	2.8	2.9	3.0	3.2	3.8
Growth rate in current prices (previous year = 100)	n.a.	116.2	104.5	102.5	112.4	117.4

Note: In 2000 a new method of collecting and presenting data was introduced, which makes it difficult to estimate the 2000 growth rates in relation to 1999

Source: GUS

SOLD PRODUCTION OF PAPER AND CARDBOARD PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN million)	3,011.1	3,233.8	3,440.7	4,093.9	4,408.0	4,683.3
Growth rate in current prices (previous year = 100)	n.a.	107.4	106.4	119.0	107.7	106.2
Sold production (USD million)	692.8	789.9	843.4	1,052.7	1,212.0	1,451.1
Growth rate in current prices (previous year = 100)	n.a.	114.0	106.8	124.8	115.2	119.7
Sold production (EUR million)	750.7	881.5	892.4	930.9	1,136.0	1,166.4
Growth rate in current prices (previous year = 100)	n.a.	117.4	101.2	104.3	125.5	102.6

Source: GUS

PAPER AND CARDBOARD PACKAGING IN 2005

Size of market (USD million)	1,443.9
Size of market (EUR million)	1,159.4
Market share of domestic producers (%)	80.2
Share of imports (%)	19.8

Source: Eurostat

- Poland's main producers of paper and cardboard packaging are:
  - Eurobox Polska Sp. z o.o.,
  - Frantschach Świecie S.A.,
  - Kappa Expac Sp. z o.o.,
  - Polpak-Karton Sp. z o.o.,
  - Amcor Polska Sp. z o.o.,
  - DS Smith Packaging S.A.,
  - Intercell S.A.,
  - Mondi Packaging Sp. z o.o.,
  - Hammer Sp. z o.o.

- The main producers of glass packaging are:
  - O-I Polska, in Jarosław (market share of about 40%),
  - Huta Szkła Czechy,
  - Stolzle Glas Częstochowa,
  - Warta Glass Group (10%),
  - Huta Szkła Feniks, in Piotrków Trybunalski,
  - Vitrosilicon, in Iłowa,
  - Rexam Szkło Gostyń (10%),
  - Huta Szkła Sława,
  - Huta Szkła Działdowo,
  - Huta Szkła Ujście S.A.,
  - Huta Szkła Orzesze,
  - Heinz Glass Działdowo.

SOLD PRODUCTION OF GLASS PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN million)	1,947.8	1,948.0	2,084.5	2,257.7	2,455.3	2,300.0
Growth rate in current prices (previous year = 100)	n.a.	100.0	107.0	108.3	108.8	93.6
Sold production (USD million)	448.1	475.8	511.0	580.5	675.2	712.8
Growth rate in current prices (previous year = 100)	n.a.	106.2	107.4	113.6	116.4	105.6
Sold production (EUR million)	485.6	531.0	540.6	513.4	542.6	572.8
Growth rate in current prices (previous year = 100)	n.a.	109.3	101.8	95.0	108.7	105.6

Source: GUS

GLASS PACKAGING IN 2005

Size of market (USD million)	416.5
Size of market (EUR million)	334.6
Market share of domestic producers (%)	74.7
Share of imports (%)	25.3

Source: Eurostat

- The main producers of plastic packaging are:
  - Akerlund & Rausing S.A.,
  - Bana PET Sp. z o.o.,
  - Autobar Packaging Poland Sp. z o.o.,
  - Greiner Opakowania Sp. z o.o.,
  - Carnaud Metalbox Tworzywa Sztuczne Sp. z o.o.,
  - Ergis Group Sp. z o.o.,
  - Inline Poland Sp. z o.o.,
  - Masko-Graham Sp. z o.o.,
  - Alpla Sp. z o.o.,
  - Cofinec Polska Sp. z o.o.,
  - ERG S.A.

SOLD PRODUCTION OF PLASTIC PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN million)	2,514.1	2,742.0	3,096.7	3,721.7	4,313.4	4,893.3
Growth rate in current prices (previous year = 100)	n.a.	109.1	113.0	120.2	115.9	112.9
Sold production (USD million)	578.4	669.8	759.6	957.0	1,191.3	1,516.6
Growth rate in current prices (previous year = 100)	n.a.	115.8	113.4	126.0	140.4	127.3
Sold production (EUR million)	626.8	747.4	803.1	846.3	957.4	1,218.7
Growth rate in current prices (previous year = 100)	n.a.	119.2	107.5	105.4	116.4	127.3

Source: GUS

PLASTIC PACKAGING IN 2005

Size of market (USD million)	1,289.3
Size of market (EUR million)	1,035.3
Market share of domestic producers (%)	64.6
Share of imports (%)	35.4

Source: Eurostat

SOLD PRODUCTION OF METAL PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN million)	1,639.4	1,828.5	2,096.8	2,417.8	2,778.0	2,626.3
Growth rate in current prices (previous year = 100)	n.a.	111.5	114.7	115.3	114.9	94.5
Sold production (USD million)	377.2	446.6	514.0	621.7	763.9	813.9
Growth rate in current prices (previous year = 100)	n.a.	118.4	115.1	121.0	138.6	106.5
Sold production (EUR million)	408.7	498.4	543.8	549.8	613.9	654.1
Growth rate in current prices (previous year = 100)	n.a.	121.9	109.1	101.1	114.9	106.5

Source: GUS

- The leading producers of metal packaging are:
  - Asko Vogel & Noot Sp. z o.o.,
  - Ball Packaging Europe Radomsko Sp. z o.o.,
  - Carnaud Metalbox Polska Sp. z o.o.,
  - Continental Can Polska Sp. z o.o.,
  - Fabryka Opakowań Blaszanych Sp. z o.o.,
  - Grupa Can-Pack S.A.,
  - Polmetal Fabryka Wyrobów Blaszanych S.A.,
  - Pakmet - Zakład Opakowań Blaszanych s.c.
- The size of the Polish market (production + imports - exports) of wooden packaging can be put at USD 100 million (EUR 80.4 million). The greater part of wooden packaging manufactured in Poland is exported. Due to the considerable role of re-export and also the export of revitalised used pallets it is difficult to estimate the share of imports in the domestic sales of wooden packaging.
- The main producers of wooden packaging are:
  - Palettenwerk Sp. z o.o.,
  - Palko Sp. z o.o.,
  - PalPol Sp. z o.o.,
  - PPH Tor-Pal Sp. z o.o.,
  - Prymas Cargo s.c.,
  - Raven Sp. z o.o.,
  - Rotom Polska Sp. z o.o.
- Exports of packaging have been growing steadily in recent years – nearly tripling since 1999.
- In 2005 close to 38% of various types of packaging produced in Poland was exported.

METAL PACKAGING IN 2005

Size of market (USD million)	613.9
Size of market (EUR million)	493.0
Market share of domestic producers (%)	62.9
Share of imports (%)	37.1

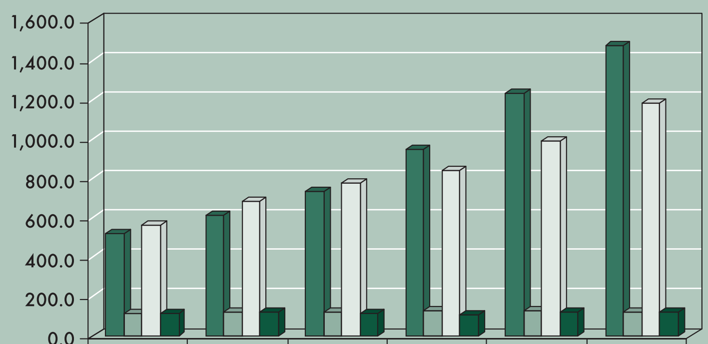
Source: Eurostat

SOLD PRODUCTION OF WOODEN PACKAGING

	2000	2001	2002	2003	2004	2005
Sold production (PLN million)	493.7	464.3	512.3	591.2	735.6	789.4
Growth rate in current prices (previous year = 100)	n.a.	94.1	110.3	115.4	124.4	107.3
Sold production (USD million)	113.6	113.4	125.6	152.0	202.2	228.9
Growth rate in current prices (previous year = 100)	n.a.	99.9	110.7	121.0	133.1	113.2
Sold production (EUR mililon)	123.1	126.6	132.9	134.4	161.8	188.1
Growth rate in current prices (previous year = 100)	n.a.	102.8	105.0	101.2	120.1	116.2

Source: GUS

EXPORTS OF PACKAGING

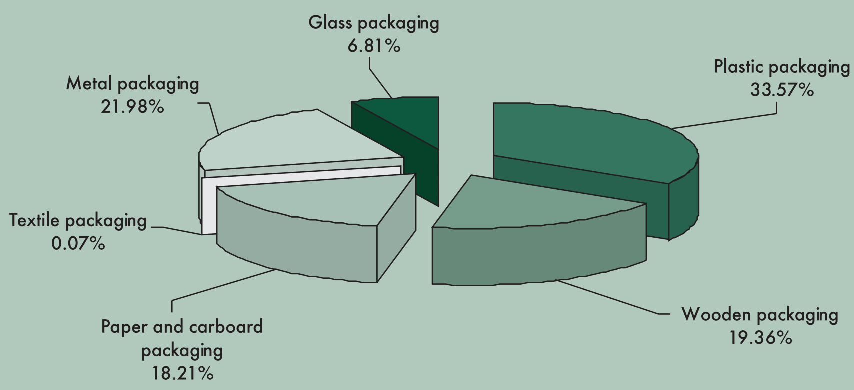


	2000	2001	2002	2003	2004	2005
Exports (USD million)	519.2	610.2	731.5	948.2	1,232.0	1,472.3
Growth (previous year = 100)	111.5	117.5	119.9	129.6	129.9	119.5
Exports (EUR million)	562.6	681.0	774.0	838.5	990.4	1,182.2
Growth (previous year = 100)	114.3	121.0	113.7	108.3	118.1	119.4

Source: GUS, Eurostat

- The most important export outlets for individual types of packaging produced in Poland are:
  - Germany, Czech Republic, Russia and Lithuania – plastic packaging,
  - Germany, Italy and Netherlands – wooden packaging,
  - Germany, Russia, Austria, Hungary and Ukraine – metal packaging,
  - Russia, Germany, Lithuania and Sweden – paper and cardboard packaging,
  - Russia and Germany – glass packaging.

PROFILE OF PACKAGING EXPORTS IN 2005 IN TERMS OF VALUE



Source: Eurostat

4. Foreign investments

- According to data from the Polish Information and Foreign Investment Agency (PAIiIZ), foreign investments in the Polish packaging sector exceeded USD 1,977 million (EUR 1,591 million) as of the end of 2004.

LARGEST FOREIGN DIRECT INVESTMENTS IN THE PACKAGING SECTOR (AS OF THE END OF 2004)

Investor	Capital invested in USD million	Country of origin
Paper and cardboard packaging		
Framondi NV	144.0	Netherlands
Amcor Ltd	131.0	Australia
Stora Enso Oyj	108.0	Finland
Kappa Packaging	60.2	Netherlands
David S Smith Netherlands B.V.	48.3	Netherlands
Esselte AB	36.1	Sweden
Kurt H. Schumacher A.G.	25.0	Germany
Premium Packaging Tiefdruck Produtions GmbH	17.5	Germany
Overseas Enterprises Company Ltd.	11.5	Switzerland
Inter Paper Holding AG	10.5	Sweden
Munksjo AB	10.0	Sweden
Nordic Environment Finance Corporation (NEFCO)	9.9	Finland
Model Holding AG	9.4	Switzerland
Sical S.A.	7.2	France
Neupack GmbH	3.0	Austria
Plastic packaging		
Huhtamaki Van Leer	59.0	Finland
M. J. Maillis	37.0	Greece
Alpla	14.0	Austria
Wentworth Technologies Co. Ltd.	11.5	Canada
Graham Packaging	10.0	USA
Nordenia Hungary Szada (NHS)	9.8	Hungary
Cebal S.A.S.	8.1	France
Georg Utz Holding	7.7	Switzerland
PACTIV Corp.	4.0	USA
Wavin Trepak BV	3.2	Netherlands
Adrenatio	2.7	Germany
Inline Plastics Corporation	1.8	USA
Metal packaging		
F & P Holding Company Inc.	164.0	USA
Ball Packaging Europe GmbH	76.3	USA
Glass packaging		
Saint-Gobain	855.0	France
Owens-Illinois	17.2	USA
Rexam Plc	55.8	United Kingdom
Heye & Heinz Glas	8.0	Germany
Wooden packaging		
Paletten Service Hamburg Beteiligungs GmbH	1.3	Germany

Source: Polish Information and Foreign Investment Agency (PAIiIZ)

- Imports of packaging have been growing steadily in recent years, but slower than exports.
- Since 1999 imports of packaging have grown by 84%. In 2005 imports accounted for close to 25% of the Polish packaging market.
- Various types of packaging are imported, chiefly from:
  - Germany, Italy, Great Britain and France – plastic packaging,
  - Germany, Austria and Czech Republic – paper and cardboard packaging,
  - Germany, France and Italy – glass packaging,
  - Germany, Czech Republic, Slovakia and Denmark – metal packaging.

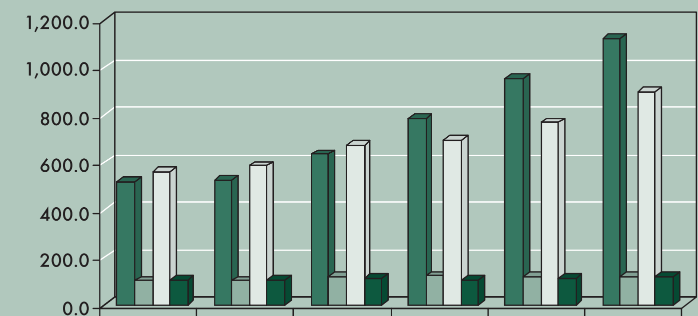
5. Recycling and product fees

- In accordance with regulatio ns introduced to meet EU environmental protection standards, producers, importers and trading firms in Poland have been jointly responsible for recycling of waste packaging since 2002.
- Firms introducing packed goods onto the market may choose one of the following solutions:
- organise collection of waste packaging independently;
- establish a separate waste packaging collection entity, which may render services to more than one firm;
- hire specialised waste management firms;
- pay product fees, the amounts of which are defined in the relevant legal acts.
- The adoption of regulations relating to waste packaging has contributed to the development of firms specializing in retrieval and recycling of used packaging, largely owing to the fact that the amounts paid for the services rendered by such firms are 20%
- 50% lower than any product fee (according to the trade monthly *Opakowanie)*.
- From 2006 all entrepreneurs will be accountable not only for recycling but also for the retrieval of waste. The level of retrieval for all kinds of packaging is set at 43% in 2006, and 50% in 2007.

6. Level of recycling of waste packaging

- Poland is to achieve the level of recycling of waste packaging that is binding in the European Union by 2008. Progress made in this area to date suggests that the required recycling levels for different types of waste packaging will be achieved on time.

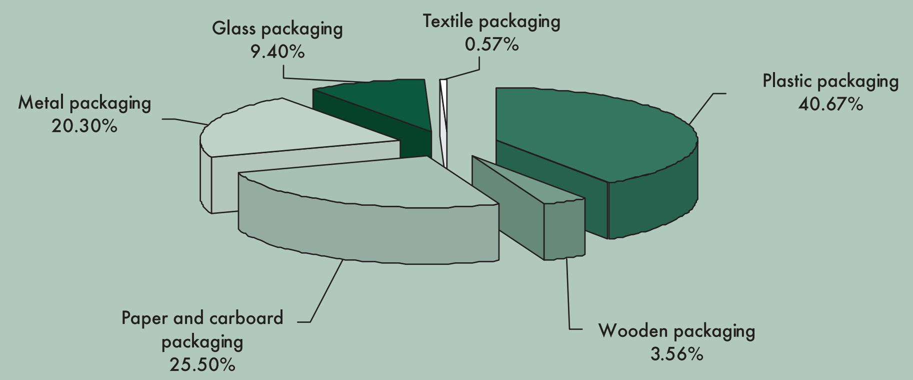
IMPORTS OF PACKAGING



	2000	2001	2002	2003	2004	2005
Exports (USD million)	518.3	525.8	634.6	785.4	955.1	1,121.5
Growth (previous year = 100)	101.4	101.4	120.7	123.8	121.6	117.4
Exports (EUR million)	561.6	586.8	671.7	694.5	767.9	900.5
Growth (previous year = 100)	107.4	104.5	114.4	103.4	110.5	117.3

Source: GUS, Eurostat

PROFILE OF PACKAGING IMPORTS IN 2005 IN TERMS OF VALUE



Source: Eurostat

RETRIEVAL AND RECYCLING LEVELS ACHIEVED IN 2004 (%)

Types of waste products	Recycling level	
	required	achieved
Paper and cardboard packaging	39	57.00
Aluminium packaging	25	33.30
Glass packaging	22	31.21
Plastic packaging	14	22.41
Packaging made of metals other than aluminium	11	17.32
Packaging made of several types of materials	12	14.22
Wooden and textile packaging	9	19.43

Source: Ministry of the Environment

7. Prospects for development of the packaging market

- Further development of the packaging market will depend on the development of the entire Polish economy, and in particular, growth in the level of income and consumption of the Polish population. It is estimated that growth in GDP by 1 percentage point leads to growth of the packaging market by 2 percentage points.
- General predictions for development of the Polish economy suggest that the Polish packaging market is in a stage of continuous growth, at an annual rate that is likely to reach at least 10% (according to the trade monthly *Opakowanie).*
- It is probable that the value of sales of packaging on the Polish market will rise faster than the volume of sales (in tonnes). This will be determined by two factors:
- improving quality of supplied packaging,
- increasing role of returnable packaging, in line with the adopted pro-ecological regulations.

8. Forecasts

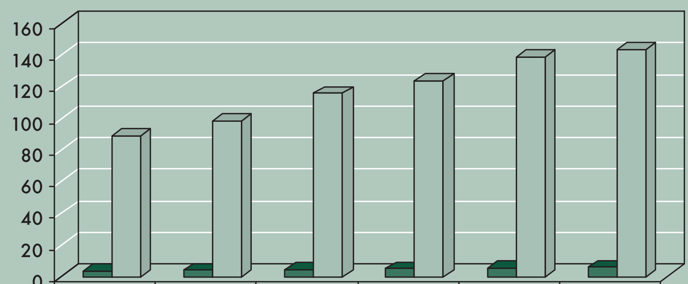
- The Polish Chamber of Packaging predicts that the Polish packaging market will grow at a pace of 5-10% annually until 2010, and the value of the market may rise to as much as PLN 5-7 billion (from the current PLN 3 billion).
- There have been forecasts that in the years 2005-2008, the biggest increase in the consumption of packaging will be in paper packaging – at least 12-14% annually. In 2010 the consumption of paper packaging is expected to equal that of the Western countries of the European Union.
- An increase should also be noted in metal packaging; demand is expected to be especially high for beverage cans, tin boxes, and aerosol packaging.
- Despite competition from plastic packaging, an increase in glass packaging is expected. This should be observed in all groups of glass packaging, but especially bottles.
- The packaging sector is one of the main consumers of plastics. Economic development in Poland will have a great impact on the growth of the plastic packaging sector.

REQUIRED RECYCLING LEVELS FOR INDIVIDUAL TYPES OF WASTE PACKAGING IN 2004–2007 (%)

Materials	2003	2004	2005	2006	2007
Paper and cardboard	38	39	42	45	48
Aluminium	20	25	30	35	40
Glass	16	22	29	35	40
Plastics	10	14	18	22	25
Composite	7	12	16	20	25
Steel	8	11	14	18	20
Natural	8	9	11	13	15

Source: Ministry of the Environment

WEIGHT OF WASTE PACKAGING



	2000	2001	2002	2003	2004	2005
Packaging (million tones)	3.4	3.8	4.5	4.8	5.3	5.8
Quantity of packaging per capita (kg)	89	98.2	115.8	123.7	138.7	143.1

Source: Opakowanie monthly, other press reports

Polish Information and Foreign Investment Agency (PAIiIZ)
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