

# ANALYSIS ON PLASTIC MATERIALS USE

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**Abstract:** This approach on plastic materials can not be done without a thorough analysis of the existent stage and trends in the world. The INTERNET shows to be very useful in the documentary approaching of a field and in finding out the marketing analyses, respectively of statistical data elaborated by those in charge. The analyzed worldwide marketing studies and statistics strongly reveal the state of the art, as regards the used plastic materials, by reporting to other base materials, on years, countries, application fields and elaboration technologies.

Plastic materials; marketing analyses; documentation.

## 1. Generalities

This approach on plastic materials can not be done without a thorough analysis of the existent stage and trends in the world. The elaborated documentation evinced the state of the art on the present and future use of plastic materials.

## 2. Interesting data

The INTERNET shows to be very useful in the documentary approaching of a field and in finding out the marketing analyses, respectively of statistical data elaborated by those in charge.

(Figure 1/1) presents global demand for flexible polymers by 2003 and prospect by 2008. Demands for flexible materials is expected to grow 18,1% to 62,7% billion pounds, by 2008. U.S. nanomaterials demand by 2003 was \$ 263 million, by 2008 was \$ 1,36 billion and by 2020 \$ 34 billion (Figure2/2). The detail was given on distinct fields, too: electronics, health care, construction, energy generation & storage and other.

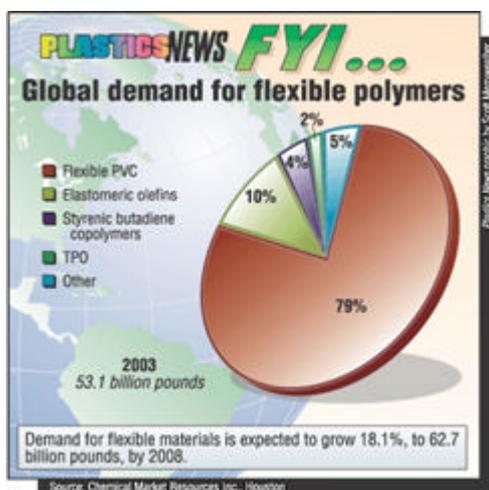


Figure 1 [1]

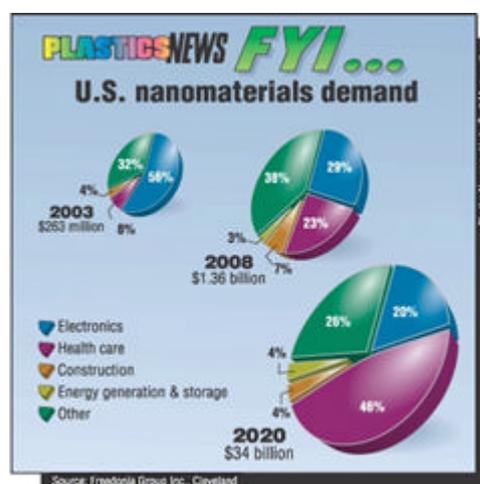


Figure 2 [2]

Plastic compound demand in Asia by 2004 was 17,2 billion pounds specified differentially on countries (China, South Korea, Taiwan, Thailand, India, Malaysia, Indonesia and others) is presented in (Figure 3/3).

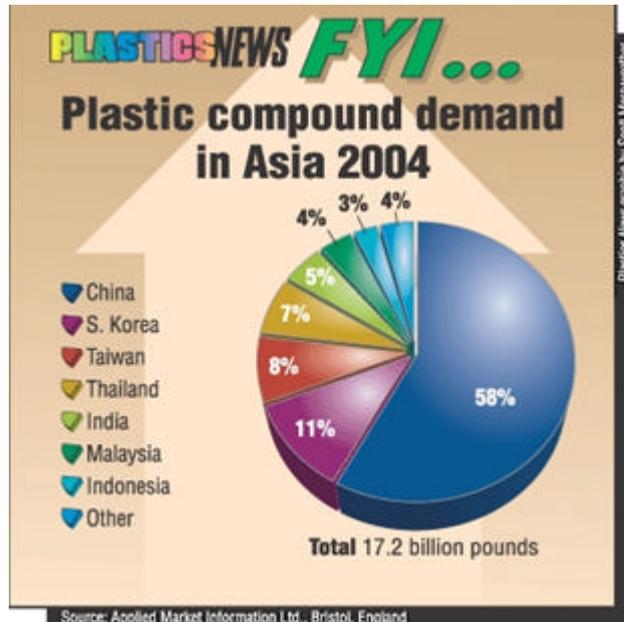


Figure 3 [3]

Polymer demand was reported for blow molding in for European countries (Italy, France, United Kingdom, Spain, Germany, Central Europe, Benelux, Scandinavia and others) by 2003 is given in (Figure 4/3).

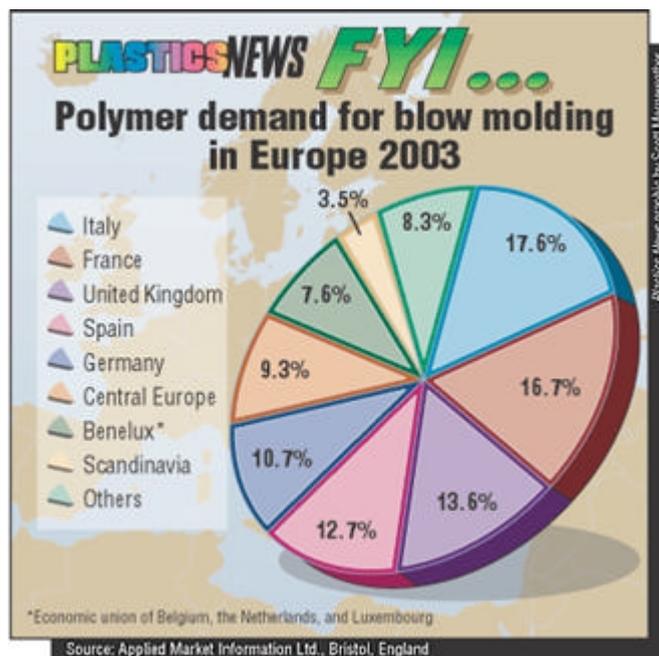


Figure 4 [3]

As regards the U.S. speciality foam demand by 2004 (\$ 1 billion) with prevision by 2009 (\$1,3 billion), (Figure 5) is very conclusively /2/.

Thermoplastic demand in Southeast Asia, by 2004 is 110,2 billion pounds, differentially on countries (China, South Korea, Taiwan, Thailand, Indonesia, Malaysia, Vietnam, Philippines, Singapore and others) is presented in (Figure 6/3).

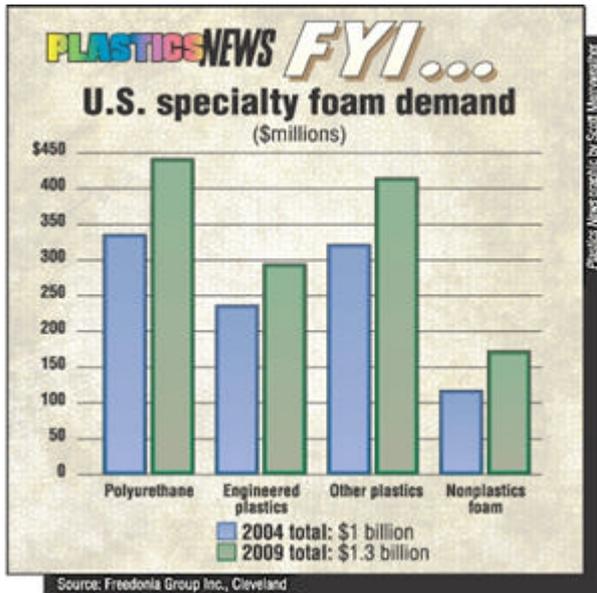


Figure 5 [2]

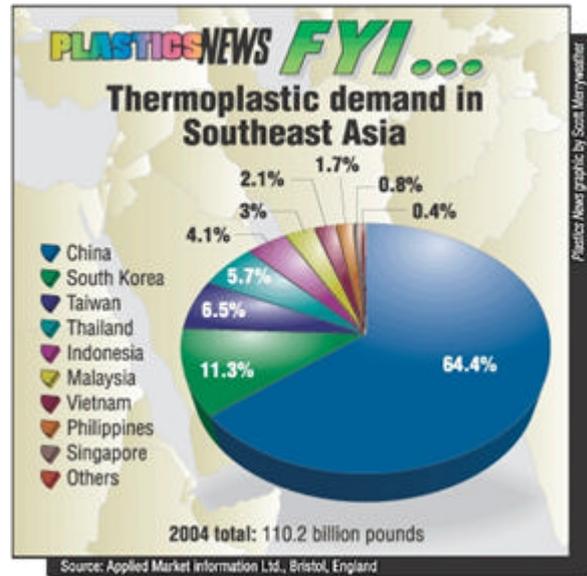


Figure 6 [3]

Global resin consumption, differentially (PP, PS, PU) by 1999, 2002 and 2005 is indicated in (Figure 7/4). Data are extended to Iran, too /5/ as given in (Figure 8), as regards PEHD, PELD, PEMD, indicating the years, companies and their capacities, total planned PE capacities expansions being 7,8 billion pounds.

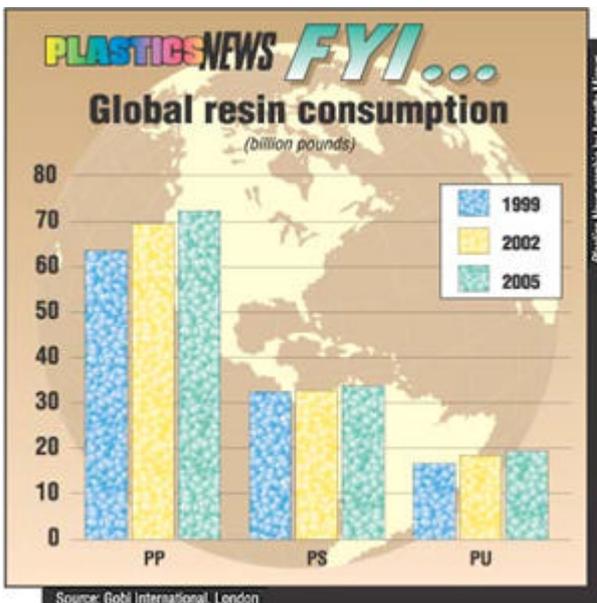


Figure 7 [4]

**Iran's growing PE capacity**  
Scheduled projects

Product	Capacity (million pounds)	Company	Year due online
HDPE	661.4	Marun Petrochemical Co.	2004
	308.6	Amir Kabir Petrochemical Co.	2004-06
	661.4	Jam Petrochemical Co.	2006
	771.6	Arvand Petrochemical Co.	2006-07
	661.4	Ilam Petrochemical Complex	2008
<b>Total</b>	<b>3,064.4</b>		
LDPE	661.4	Marun	2004
	661.4	Amir Kabir	2004-06
	661.4	Arya Sasol Polymers	2006
<b>Total</b>	<b>1,984.2</b>		
LL/HDPE	661.4	Amir Kabir	2004-06
LL/HDPE	661.4	Jam	2006
	771.6	Arvand	2006-07
<b>Total</b>	<b>1,433</b>		
H/MDPE	661.4	Arya Sasol	2006
<b>Total planned PE capacity expansions: 7.8 billion pounds</b>			

Source: DeWitt & Co. Inc., Houston

Figure 8 [5]

U.S. packaging barrier resin market, barrier resins, permeable resins, tie-layer resin by 2004 (5,85 billion pounds) and the application fields (Food, Pharmaceutical, Health Care, Chemical, Industrial, Beverage), is given in (Figure 9/6).

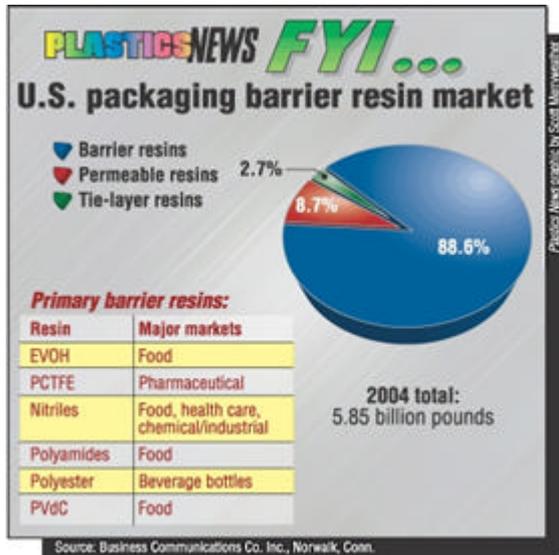


Figure 9 [6]



Figure 10 [6]

(Figure 10) presents North American composite & plastic lumber market by 2004 (wood-plastic composites, al-plastic lumber, natural-fiber composites, 2,26 billion pounds with prevision by 2009, insisting on the North American post-consumer plastics recycling, too. Worldwide market for polymer nanocomposites, by 2003 (\$ 90,8 million), respectively 2008 (\$211 million) /6/, separately for thermoplastics and thermosets is presented in (Figure 11/6).

(Figure 12/6)presents biodegradable polymer market by 2005 versus 2000.

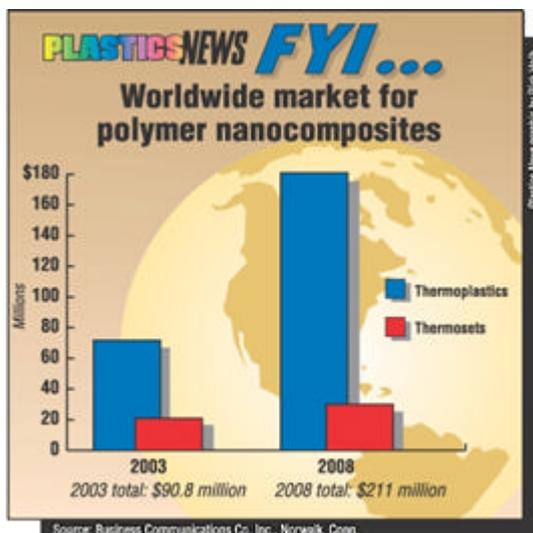


Figure 11 [6]

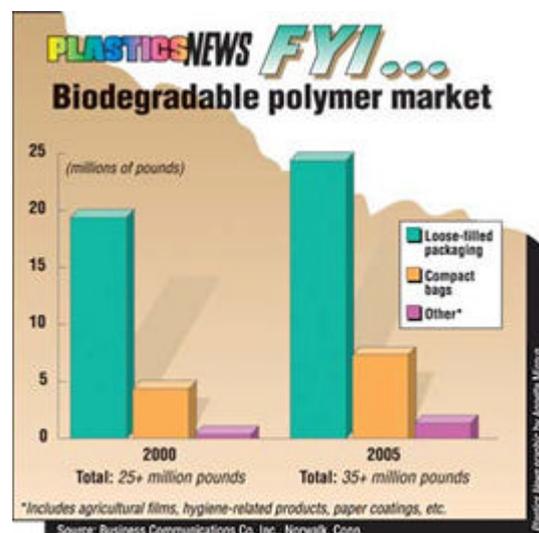


Figure 12 [6]

U.S and Canadian PVC end markets by 2004 and the specification of methods to obtain PVC (rigid pipe and tubing, siding, calendaring, extruded windows and doors, extruded films and sheet, wire and cable, injection/blow molding, all other uses) by January to June 2004, are detailed in (Figure 13/7).

Figure 14/5/ presents the total market by 200 (10,3 billion pounds) and 2007 (28,2 billion pounds) related to the Middle East polyethylene capacity in Saudi Arabia and Kuwait, Iran and Qatar.

Figure 15/8/ illustrates by percentage and pounds typical North American vehicle, materials used per vehicle, by comparison for different base materials, plastics/composites, aluminum, high/medium-strength steel, by 2003 as compared with 1977.

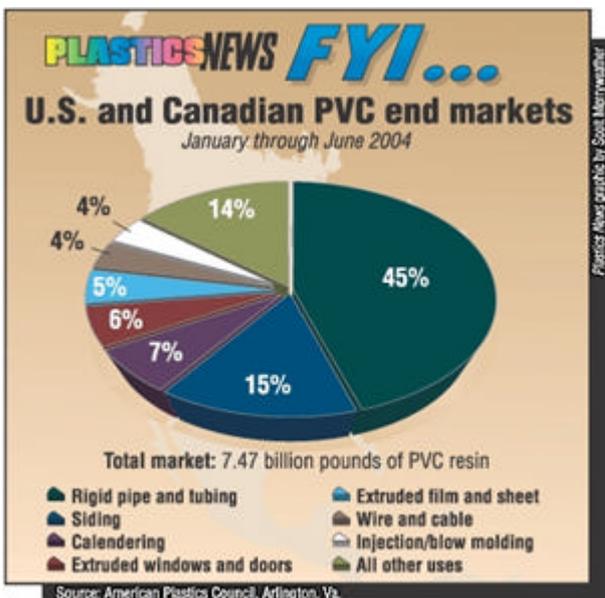


Figure 13 [7]

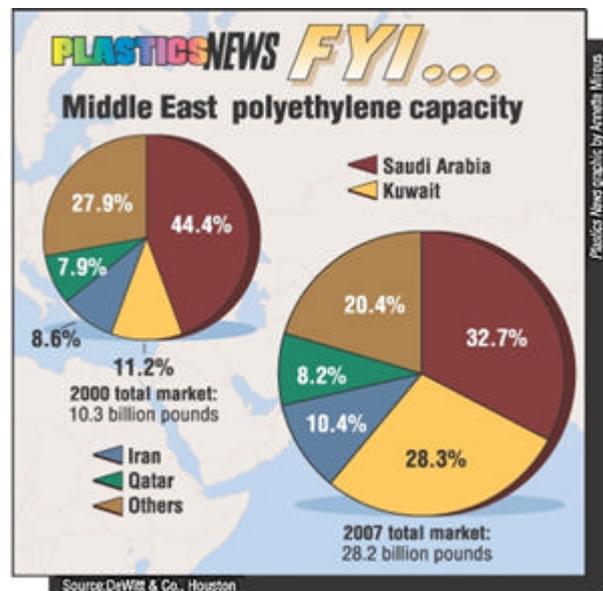


Figure 14 [5]

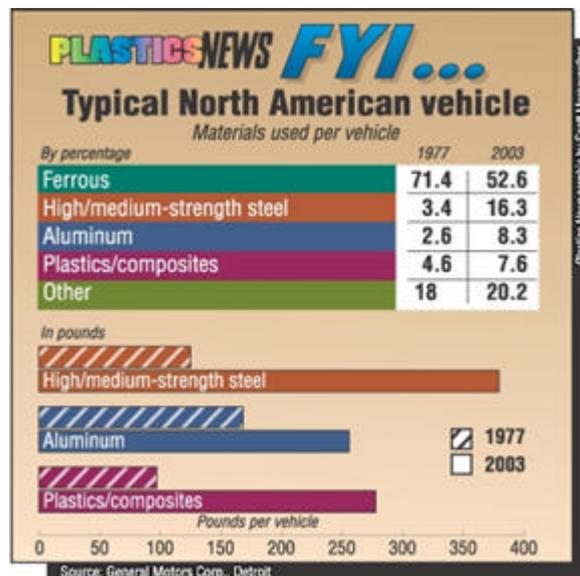


Figure 15 [8]

### **3. Conclusions**

The analyzed worldwide marketing studies and statistics strongly reveal the state of the art, as regards the used plastic materials, by reporting to other base materials, on years, countries, application fields and elaboration technologies. These data are particularly useful information in knowing trends in the field and establishing the fields' strategy.

### **Bibliography**

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