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2000 REPORT ON POST CONSUMER PET CONTAINER RECYCLING ACTIVITY

FINAL REPORT

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INTRODUCTION

This report is intended to give the reader an overview with respect to the recycling of injection, stretch blow molded PET containers in the United States. Information contained in this report was obtained through surveys conducted by the Association of Post Consumer Plastic Recyclers (APR), R.W. Beck, Moore Recycling Associates, US Department of Commerce and data generated internally by the National Association for PET Container Resources. In order to present as accurate a picture of these activities as possible, additional data and information was obtained through discussions with individual collectors, intermediate processors, reclaimers, converters, brokers, exporters, resin producers, bottle manufacturers, public recycling officials and key industry members.

PET BOTTLES AVAILABLE FOR COLLECTION

Growth of the PET Bottle market saw its second consecutive downturn in 2000. After almost a decade of sustained double-digit growth, the 9% market increase in 1999 was followed by a 6% increase in 2000. This is largely due to lack of growth in containers used for carbonated soft drinks (CSD). While the half liter, 20 oz and 24 oz CSD size continued to post modest growth, the one and three liter sizes continued to decline and even the flagship two liter bottle, posted negative growth, for the first time. It is interesting to note that while a number of different sizes have been tried for individual servings, the public has continued to embrace the 20 oz bottle, which accounts by weight for about 47% of all PET used in CSD applications.

Custom (other than CSD) containers, however, continued to increase their market share at almost double digit growth, with water bottles and wide mouth food containers posting the strongest gains. Beer, dairy and juice applications also saw significant increases, which resulted in custom containers, categorically accounting for about 52% of the total PET available for recycling.

NAPCOR has determined that the total number of pounds of PET bottles and jars available for recycling in 2000 was 3.445 billion. This number reflects the total amount of PET bottle resin used by U.S. bottle manufacturers from U.S., foreign and recycled sources less scrap generated and not reused, exported bottles and preforms and bottles less than 8 oz. in size. NAPCOR uses this number as the denominator in determining both recycling and utilization rates.

POST CONSUMER PET BOTTLE PURCHASES

The amount of post consumer PET bottles collected for recycling and sold in the U.S. was 769 million pounds (mmlbs) in 2000. The breakdown of buyers is as follows:

594	- U.S. Reclaimers
170	- Export Markets
5	- Composite Applications (other)
769	- Total Amount of U.S. Material Sold

The 170 mmlbs of post consumer bottles exported includes 19.5 mmlbs going to Canada, and the balance to China. The aggressive pricing by Chinese buyers seen during the last half of 1999 carried into the first three quarters of 2000 before easing off during the final quarter. Otherwise the quantity of PET bales and dirty granulate exported might very well have exceeded the 1999 record amount.

As it was, the 19 US reclamation companies continued to supplement their purchase of the US post consumer bottles with bottles imported from Canada, Mexico and Europe as well as purchasing alternative feedstocks, i.e. strapping, film and sheet.

Post Consumer Bottles – Gross Weight Purchases (mmlbs.)	**1995**	**1996**	**1997**	**1998**	**1999**	**2000**
A. Purchased by U.S. Reclaimers + Other	605	549	580	656	588	599
B. Purchased by Exporters	170	148	111	89	183	170
C. Total U.S. Material Recycled (A+B)	775	697	691	745	771	769
D. Post Consumer Bottle Imports	46	87	66	101	60	69
E. Total Bottles Used by U.S. Reclaimers (A+D)	651	636	646	757	648	668

2000 GROSS RECYCLING RATE

Total U.S. Bottles Collected and Sold for Recycling	**769 mmlbs**	=	22.3%
Total U.S. Bottles Available for Recycling	**3,445**		

Year	***Total U.S. Bottles Collected (MM lbs.)***	***Bottles on U.S. Shelves (MM lbs.)***	***Gross Recycling Rate***
1995	775	1,950	39.7%
1996	697	2,198	31.7%
1997	691	2,551	27.1%
1998	745	3,006	24.8%
1999	771	3,250	23.7%
2000	769	3,445	22.3%

PET BOTTLE BALE MARKETS

The first three quarters saw bale prices increase steadily reflecting more an aggressive export market than a rise in the price of virgin material. By the end of the third quarter prices had reached unsustainable levels causing Chinese buyers to pull out of the market completely and subsequent price decreases in the fourth quarter. The two vertically integrated strapping plants, which were brought on in late 1999, contributed not only to stronger U.S. demand but strengthened U.S. buyers' ability to compete with the export market.

NON DEPOSIT PET BOTTLE BALE PRICES
(Picked up, Truckload quantities, Sellers dock)

	LOW	HIGH
JANUARY	$.07/ LB	$.10/ LB
FEBRUARY	.07	.12
MARCH	.07	.14
APRIL	.09	.15
MAY	.09	.15
JUNE	.09	.15
JULY	.12	.19
AUGUST	.12	.19
SEPTEMBER	.16	.20
OCTOBER	.12	.19
NOVEMBER	.12	.15
DECEMBER	.10	.12

RECLAMATION CAPACITY

At one time or another, 20 plants owned by 19 companies produced clean PET flake (RPET) from post consumer bottles during 2000. Four of these operations were out of business by year's end while a plant closed in 1998 reopened, for a total of 16 plants with an operating capacity of 836 mmlbs, gross weight in. These plants consumed total feedstock of post consumer bottles, pre consumer bottles, strapping and other feedstock of 732 mmbls., for a capacity utilization rate of 84.5%. Of these plants, 7 are vertically integrated back to end product (3 bottle, 2 carpet, 2 strapping) and account for slightly more than 50% of total capacity. Six plants have technologies that have received letters of non objection (LNO) from the FDA, which allows the RPET produced to be used in direct contact with various food and beverage products.

RPET Production Summary (MMlbs.)	1995	1996	1997	1998	1999	2000
A. RPET Produced by U.S. Reclaimers from U.S. Bottles	496	438	486	513	457	476
B. RPET Produced by U.S. Reclaimers from Imported Bottles	38	70	55	75	47	51
C. Total RPET Production U.S. Reclaimers (A+B)	534	508	541	588	504	527
D. Clean Flake Equivalent from U.S. Bottles Exported	153	134	92	75	154	143
E. Total Clean Flake from U.S. Bottles (A+D)	622	572	578	588	611	619

UTILIZATION RATE

Clean Flake Produced from U.S. Post Consumer Bottles	476 mmlbs		
+			
Clean Flake Equivalent of U.S. Bottles Exported	143 mmlbs	=	18%
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Total U.S. Bottles Available for Recycling	3,445 mmlbs		

Year	Clean Flake Equivalent (MM lbs.)	Bottles on U.S. Shelves (MM lbs.)	Utilization Rates
1995	622	1,950	31.9%
1996	572	2,198	26.0%
1997	578	2,551	22.7%
1998	588	3,006	19.6%
1999	611	3,250	18.8%
2000	619	3,445	18%

2000 RPET MARKET

The quantity of RPET, companies reported used, increased 26 mmlbs. over 1999 levels, reflecting for the most part the increased production of U.S. reclaimers in 2000. Sixty-six companies were identified as having purchased RPET in 2000. While fiber applications continued to dominate the market, the amount of companies that purchased RPET for bottle applications increased dramatically even though total volume purchased declined.

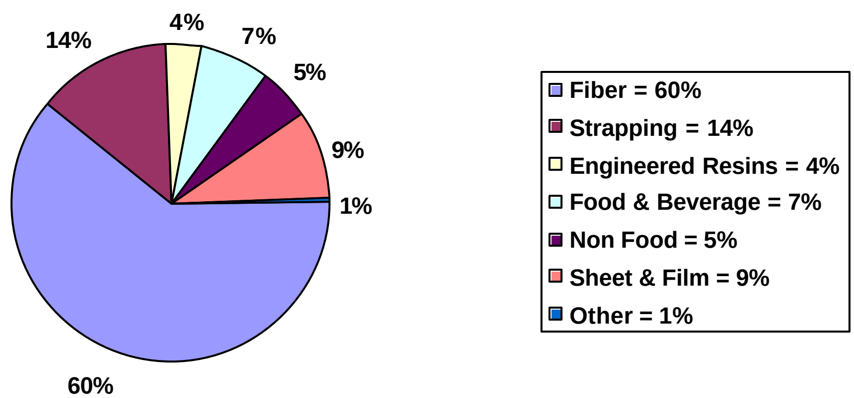
The substantial increase of RPET use in strapping reflected the first full years' operation of both vertically integrated strapping plants and strong growth in the use of PET strapping. Foreign reclaimers continued to take advantage of both the strength of U.S. market demand and of the dollar. Canadian reclaimers continued to dominate imports, but RPET from Mexico, Europe and South America was also seen in increasing quantities.

RPET Product Categories
RPET used (mmlbs)

	1996	1997	1998	1999	2000
Fiber	292	320	415	417	452
Sheet & Film	69	71	89	68	65
Strapping	66	58	67	80	101
Engineered Resin	24	26	30	26	27
Food & Beverage Bottles	24	41	52	68	54
Non-Food Bottles	71	53	47	50	40
Other	1	1	7	9	5
Total US Converter Consumption	547	570	707	718	744

The percentage of each recycled PET end use category is shown in the following graph:

RPET End Use Products 2000



SUMMARY

Relative stagnation in the growth of CSD applications continued to slow overall PET container market growth in 2000. The public's preference for smaller sizes is becoming more evident as multi-serve sizes are being scavenged by individual serving sized containers. Growth in custom containers remained strong, gated in some instances by performance enhancing technologies that are addressing the need for oxygen barriers , ultra violet light protection and extended CO2 retention. Beer, ready to drink tea and especially single serve juice bottles were poised for major growth in 2001 using these technologies. Strong growth also continued for water bottles and food containers both dry and processed.

Four PET reclamation plants shuttered or went out of business in 2000, while one plant reopened, maintaining capacity in excess of bottles collected.

Export markets were aggressive purchasers of post consumer bottles with the Chinese pulling out of the market briefly when bale prices reached $.20/ LB by the end of the third quarter. Canadian reclaimers, however, purchased aggressively throughout the year reflecting expansions completed in 2000, which now puts total Canadian reclamation capacity in excess of Canadian bottles collected.

Interest in the use of RPET content in bottles resurfaced in 2000 with Coca Cola announcing its intent to use recycled content and California enforcing the recycled content requirements of its Rigid Plastic Packaging Container Law. As a result, there was renewed interest in technologies that can gate the use of RPET in food and beverage containers.

The use of RPET by U.S. converters continued to demonstrate an excess of demand compared to U.S. reclaimer ability to supply. However, U.S. reclaimers were faced with increasing price pressures from alternative feedstocks, including imported resin, U.S. off-spec resin and imported RPET, throughout 2000, which resulted in shrinking margins and very little capital re-investment.

The major impediment for the U.S. PET recycling industry continues to be the lack of growth in the supply of bottles. Many factors contribute to this stagnation including the proliferation of single serve sizes, reduction of recycling program budgets, lack of national leadership on the issue, insufficient consumer education and apathy among them. Irrespective of why bottle collection is not increasing, this industry which may be singular in its dependency on publicly initiated/ voluntary efforts for its feedstock, recognized in 2000 that the need to increase bottle collection had become critical.