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**2005 REPORT ON POST CONSUMER
PET CONTAINER RECYCLING ACTIVITY**

FINAL REPORT

INTRODUCTION

2005 marks a departure from previous year's reports insofar as this report is a joint effort of NAPCOR and The Association of Post Consumer Plastic Recyclers (APR). APR is the trade association that represents the post consumer plastics recycling industry. Without APR's support and the cooperation of its members, this report would not have been possible. As such, it is intended to provide the reader a detailed overview of the recycling of injection stretch blow molded PET containers in the United States during 2005. Information contained in this report was obtained through surveys conducted by R.W. Beck and Moore Recycling Associates, combined with data generated internally by the National Association for PET Container Resources (NAPCOR) and the PET Resin Association (PETRA). In order to present as accurate a picture of these activities as possible, additional data and information were obtained through discussions with individual collectors, intermediate processors, reclaimers, converters, brokers, exporters, resin producers, bottle manufacturers, public recycling officials, consultants and key industry members.

PET BOTTLES AVAILABLE FOR COLLECTION

The overall growth in the use of PET resin for the production of bottles and jars continued in 2005. While the use of PET bottles for carbonated soft drinks slipped – reflecting changing consumer preferences – continued strong growth in still water and isotonic beverages more than compensated, with growth rates in excess of 20% and 15%, respectively. The continued unprecedented growth in still water was somewhat offset by significant light weighting efforts with some half liter water bottles now weighing as little as 15 grams. 2005 also saw the successful introduction of wine in single serve PET bottles, allowing vintners to sell their product in venues that prohibit the use of glass. In addition, the non-beverage container categories reported a growth rate in excess of 20%, reflecting continued conversion from glass and other plastic resins. All of this resulted in a surprisingly high growth rate of about 9.4%.

NAPCOR has determined that the total number of pounds of PET bottles and jars available in the United States for recycling in 2005 was 5.075 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 pre-forms, and bottles less than eight ounces in size. This number is used in this report as the denominator in determining both the 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 1.170 billion pounds in 2005. The breakdown of categories in millions of pounds is as follows:

681	- Purchased by U.S. Reclaimers
448	- Purchased by Export Markets
41	- PET bottle component of mixed bales exported
1,170	- Total Amount of Post Consumer Bottles (mmlbs)

For the second straight year, the PET recycling rate increased over the previous year's. While U.S. reclaimers increased their purchases by 53 mmlbs over 2004, Canadian and Chinese exporters both increased purchases over 2004 levels by over 20% to 48 mmlbs and 400 mmlbs, respectively.

U.S. reclaimers continued to supplement their domestic purchases by importing a record 108.8 mmlbs in 2005, with 53.3 mmlbs from Canada, 49.3 mmlbs from Mexico and the balance coming from Central and South America. Almost 59% of these imports were in the form of dirty flake. In addition, U.S. reclaimers reported purchasing 47.2 mmlbs of alternative feedstock, including preconsumer bottles, post consumer strapping, and other unprocessed industrial scrap. All total, U.S. reclaimers purchased an impressive 837 mmlbs of scrap in 2005.

2005 also saw a significant amount of PET bottles exported as part of mixed bottle bale shipments. By definition, PET bottles comprise a minimum of 40% of the bale by weight and contributed to slightly less than 41 mmlbs of PET bottles sold in this form. The small amount of dirty PET flake used directly in applications without being cleaned was included this year in the U.S. reclaimer purchases total.

POST CONSUMER BOTTLES <u>Gross Weight Purchases (mmlbs.)</u>	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
A. Purchased by U.S. Reclaimers	605	549	580	656	588	599	600	522	520	631	681
B. Purchased by Exporters *	170	148	111	89	183	170	234	275	321	372	489
C. Total U.S. Material Recycled (A+B)	775	697	691	745	771	769	834	797	841	1,003	1,170
D. Post Consumer Bottle Imports	46	87	66	101	60	69	70	57	62	106	109
E. Total Post Consumer Bottles used by U.S. Reclaimers (A+D)	651	636	646	757	648	668	670	579	582	737	790

* The 2005 number includes 41 mmlbs of PET sold in mixed bottle bale shipments.

2005 GROSS RECYCLING RATE

Total U.S. Bottles Collected and Sold for Recycling = 1,170 mmlbs.

= 23.1%
 Total U.S. Bottles Available for Recycling = 5,075 mmlbs.

Year	Total U.S. Bottles Collected <i>(mmlbs.)</i>	Bottles on U.S. Shelves <i>(mmlbs.)</i>	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%
2001	834	3,768	22.1%
2002	797	4,007	19.9%
2003	841	4,292	19.6%
2004	1,003	4,637	21.6%
2005	1,170	5,075	23.1%

PET BOTTLE BALE MARKETS

U.S. post consumer bottle suppliers enjoyed the highest pricing since 1995. While prices peaked at the end of the second quarter, pricing for curbside / drop-off bales stayed at around \$.20 per pound for the entire year. Certainly the impacts of the hurricanes prevented any serious price erosion that may have occurred in the fourth quarter and sparked a flurry of buying that otherwise might not have occurred.

Chinese export buyers remained active on the West Coast, competing mostly amongst themselves and paying prices in excess of \$.20 per pound throughout the year. While PET bales offered to export markets from East Coast suppliers – usually due to quality concerns – found ready buyers, the pricing was not aggressive. Even so, despite the import ban on post consumer plastic bales, more PET bottles found their way to China than ever before, in bales as well as regrind.

With both domestic and export buyers paying roughly the same, the difference became one of freight costs between the East and West Coast; as fuel prices rose, this was not insignificant. Overall in 2005, 87.5% of the post consumer bottles were purchased as bales with the balance either in shredded or granulated form.

NON DEPOSIT PET BOTTLE BALE PRICES

(Picked up, Truckload quantities, Seller's dock)

	LOW	HIGH
JANUARY	\$.17/LB	\$.20/LB
FEBRUARY	.17	.23
MARCH	.17	.24
APRIL	.18	.25
MAY	.18	.25
JUNE	.20	.24
JULY	.19	.24
AUGUST	.18	.23
SEPTEMBER	.16	.21
OCTOBER	.18	.23
NOVEMBER	.18	.23
DECEMBER	.17	.23

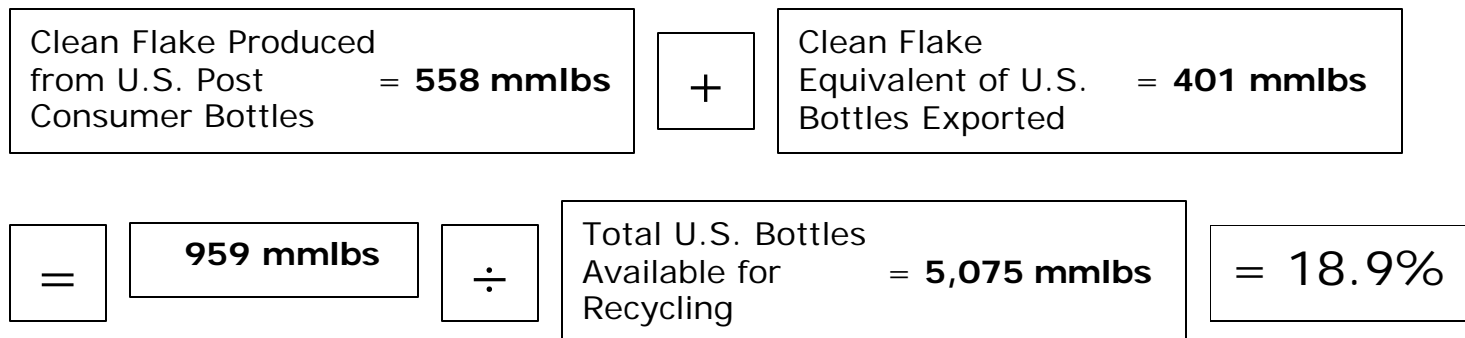
RECLAMATION CAPACITY

At the end of 2004, there were 13 reclamation plants producing clean flake from post consumer bottles in the United States, with a total capacity of 937 mmlbs gross weight in. By the end of 2005, there were 12 plants operating with a total capacity of 917 mmlbs. This was the result of the B&H plant running only intermittently by the end of the year. Two plants were sold, SPENACO of Athens, Alabama to Custom Polymers; and St. Jude Polymer, the industry’s oldest reclamation company, to Signode. In addition, two plants were under construction: Global PET in Perris, California and Reterra in Houston, Texas.

U.S. reclaimers consumed 837 mmlbs of feedstock for a reclamation plant utilization rate of better than 90%. Six plants were vertically integrated into end products (1 bottle, 2 carpet, 3 strapping) and accounted for about 61% of capacity. Even with the B&H plant shuttered, there are six reclamation plants that have received letters of non-objection (LNO) from the Food and Drug Administration, allowing the RPET produced to be used in direct contact with various food and beverage products. This is a result of UltrPET receiving a license to use the Wellman Ecoclear technology.

RPET Production Summary (mmlbs.)	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
A. RPET Produced by U.S. Reclaimers from U.S. Bottles	496	438	486	513	457	476	476	401	412	505	558
B. RPET Produced by U.S. Reclaimers from Imported Bottles	38	70	55	75	47	51	44	46	49	83	85
C. Total RPET Production U.S. Reclaimers (A+B)	534	508	541	588	504	527	520	447	461	588	643
D. Clean Flake Equivalent from U.S. Bottles Exported	153	134	92	75	154	143	184	212	255	298	401
E. Total Clean Flake from U.S. Bottles (A+D)	622	572	578	588	611	619	660	613	667	803	959

PET UTILIZATION RATE



The utilization rate measures the amount of clean flake produced by U.S. reclaimers and the equivalent amount of clean flake expected to be produced from exported bottles. Reclaimers reported yield losses of 18% for 2005, a 1% improvement over 2004. This yield loss of 18% was applied to gross weight exported to obtain the clean flake equivalent of 401 mmlbs. Yield losses on imports also dropped significantly as all Mexican, Central and South American material was brought in as dirty flake.

Year	Clean Flake Equivalent (mmlbs.)	Bottles on U.S. Shelves (mmlbs.)	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	18.0%
2001	660	3,768	17.5%
2002	613	4,007	15.3%
2003	667	4,292	15.5%
2004	803	4,637	17.3%
2005	959	5,075	18.9%

2005 RPET MARKET

The use of RPET by U.S. converters during 2005 was, for all intents and purposes, unchanged at 864 mmlbs. Of this total, U.S. reclaimers supplied 683 mmlbs or 79% of the total demand with 558 mmlbs coming from US bottles, 85 mmlbs coming from post consumer bottle imports, and 40 mmlbs from alternative feedstock. Canadian reclaimers supplied another 113 mmlbs and the balance came from a wide range of other countries including India, Mexico, China, Brazil, Peru, among others.

Consumption of RPET by fiber converters was down slightly but still accounted for more than 50% of total RPET usage. The slight decrease in fiber demand was offset by the continued growth of the strapping segment.

RPET use in food and beverage bottle applications declined almost 9% while non-food bottles remained virtually unchanged.

The 22% growth in RPET sheet applications reflected both additional customer compliance with California’s Rigid Plastic Packaging Container Law and the significant savings over virgin alternatives.

Use of RPET in the manufacture of specialty compounds or engineered resins continued to slip and may in the future be included in the “other” category which consists mainly of exports this year.

All-in-all, polyester carpet and strapping applications continue to dominate the RPET market, but significant new growth opportunities are emerging throughout the sheet industry.

**RPET Product Categories
RPET used (mmlbs)**

Product Category	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Fiber	292	320	415	417	452	435	344	296	479	463
Sheet & Film	69	71	89	68	65	37	18	32	58	71
Strapping	66	58	67	80	101	82	83	77	116	131
Engineered Resin	24	26	30	26	27	24	10	10	12	8
Food & Beverage Bottles	24	41	52	68	54	77	86	106	126	115
Non-Food Bottles	71	53	47	50	40	44	43	24	63	63
Other	1	1	7	9	5	2	4	7	24	13
TOTAL U.S. CONVERTER CONSUMPTION	547	570	707	718	744	701	588	552	878	864

2005 YEAR END SUMMARY

In many ways, this was among the strangest years for the post consumer PET bottle recycling industry. Growth of the package was strong despite the decline in the sale of carbonated soft drinks. Continued dramatic growth in unit sales of still water bottles was somewhat offset by significant reductions in the weight of the bottles. Growth in non-beverage categories was well over 20%, but flew below the radar screen – a result of many new smaller applications rather than the large more visible ones. The highly successful retail introduction of Coors 16 oz. 18-pack beer bottles was curtailed by the inability of production to keep up with demand.

The strong virgin PET (VPET) pricing that contributed to the excellent RPET market conditions seen at the end of 2004 continued through the first half of 2005. Just when the market started to slip, the gulf coast was rocked by two hurricanes that severely impacted U.S. PET production and prompted converters' concern over material availability. Surprisingly, the interruption in U.S. VPET supply was more than filled by imported resin, to the point where many converters overbought in their haste to ensure adequate supply. This inventory overhang at the end of 2005 obfuscated actual bottle production numbers and dampened demand for RPET in certain applications.

PET bottle collections increased significantly once again in 2005. The increase can be partially attributed to several factors, including:

- A 34 mmlb increase in California collections
- The incremental increase from additional bottles sales
- The installation of an additional 30 autosort units at MRFs and IPCs
- Additional new commercial recovery efforts

The 30 new installations of equipment that automatically identifies and removes PET bottles were not made only on commingled container streams; a significant number were used to extract bottles caught in the paper streams of single stream MRFs. The bottles recovered had previously ended up in paper mill waste streams and contributed to the high yield losses seen at many single stream MRFs. In both types of applications, the return on the investment was reportedly very quick – a result of reductions in labor and disposal costs, and an increase in the revenue from the additional material recovered.

However, there were also increases of 10% and higher reported by some MRF operators for PET bottles recovered and sold that are not easily explained. These MRFs report no significant program changes such as number of households, promotional efforts, bin sizes, etc.; their increased numbers remain an enigma at this point.

The commercial recovery efforts were influenced by two key factors: 1) investment on the part of some haulers in single stream sortation capacities that enables them to target recyclable rich commercial accounts, and 2) thirty uninterrupted months of PET bale pricing at \$.10 per pound and higher.

2005 was a good year to be a PET reclaimer. The favorable market conditions of adequate bale supply and high VPET pricing that existed during the last half of 2004 continued through the first two quarters of 2005. Just as margins were beginning to erode, the VPET market disruption caused by the hurricanes caused a spike in clean flake pricing without any corresponding bale price increases. Interestingly enough, with the exception of several PET sheet producers, the expected increase in RPET demand, as a result of the interruption of VPET production, never materialized. Nevertheless, more than one reclaimer was heard to say, "If you couldn't make money in PET recycling in 2005, you're probably in the wrong business."

U.S. and Canadian reclaimers produced a record 592 mmlbs of RPET flake from U.S. generated post consumer bottles, but 272 mmlbs of RPET consumed by converters came from sources other than U.S. bottles.

While there was a substantial amount of interest in the use of RPET by new customers and applications, the appearance of the market being essentially "sold out" dampened the enthusiasm of some. However, the reality expressed by most merchant reclaimers was one of readily available supply for buyers who want to establish some sort of ongoing relationship versus simply spot purchasing.

Finally, as the year closed with the greatest disparity since the early 90's between the amount of bottles collected in the U.S. and the reclamation capacity to process them, there were questions of whether the market was in oversupply and what would happen if buyers pulled out of the market, specifically the Chinese. With Chinese buyers remaining the price leaders on bale purchases in most cases, one has to assume there is still a shortage globally of post consumer PET bottles. Certainly, as previously mentioned, there is more U.S. demand for clean RPET flake than U.S. reclaimers can produce so, from the larger perspective, there remains a demand imbalance. If Chinese buyers were to stay in the market as passive participants and not as price setters, bale prices would float down to levels that would allow access to the more price sensitive RPET applications while reclaimers expanded capacity. However, if the Chinese were to abruptly terminate offers, there would be serious short term dislocation until additional investments were made in new reclamation capacity. In either event, the issue is one of having capacity to clean the bottles, not the end use markets to absorb the RPET produced.