

2015 National Postconsumer Plastic Bottle Recycling Rate Report Overview

November 7, 2016



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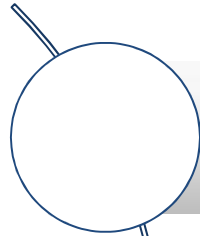
Today's Session

Dave Cornell - APR Technical Consultant

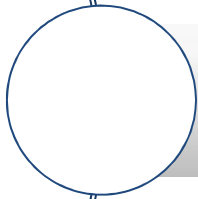
Steve Alexander - APR Executive Director

Kara Pochiro - APR Communications Director

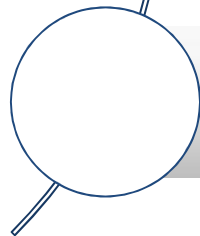
Who is APR?



International trade association



The Voice of Plastics Recycling®



Companies committed to the success of plastics recycling



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APR Primary Goals



Increase
Supply



Enhance
Quality



Communicate
Value

Increase the Value Proposition of Recycled Plastics

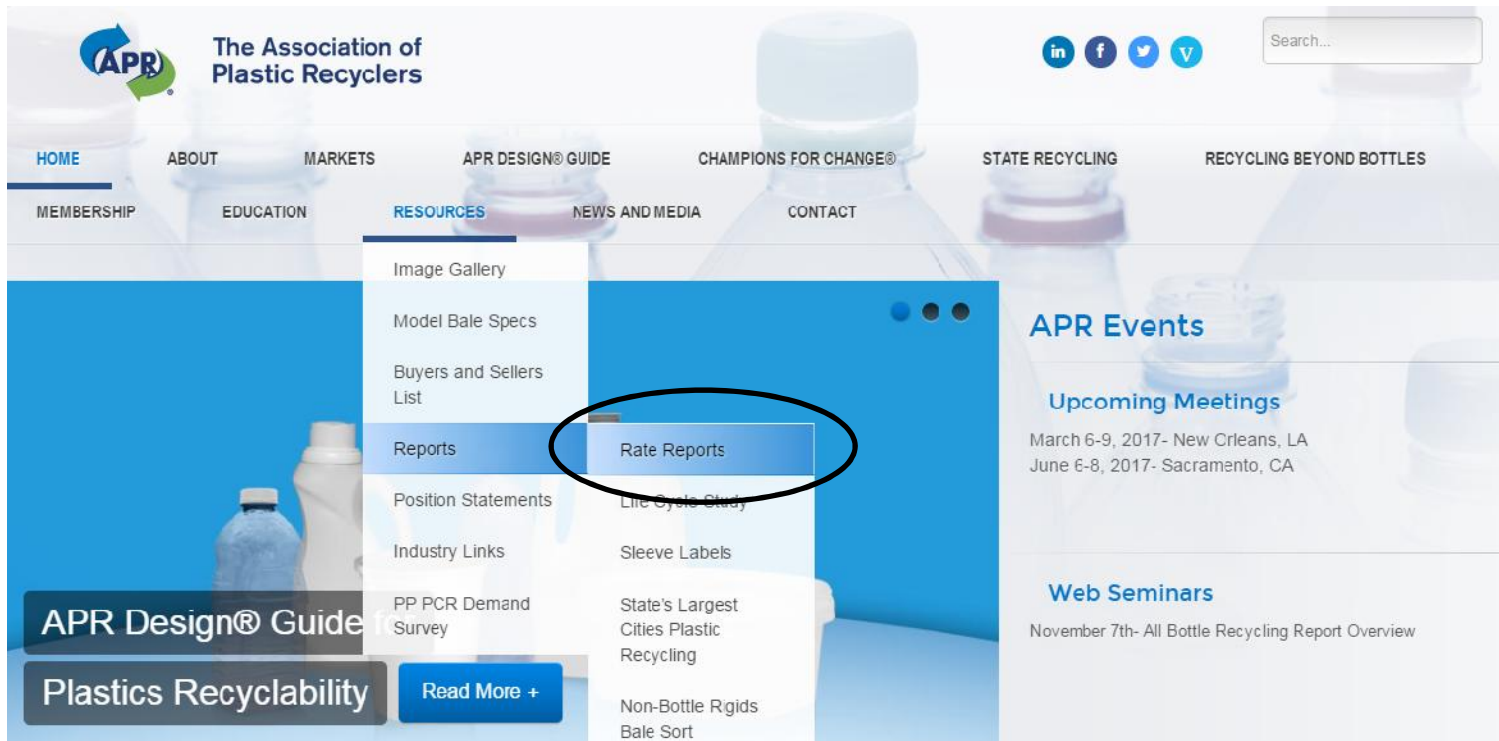


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2015 Edition of the United States National Post-Consumer Plastic Bottle Recycling Report

- 26th annual report on postconsumer plastic bottle recycling.
- Cooperative effort between the Plastics Division of the American Chemistry Council (ACC) and the Association of Plastic Recyclers (APR) for HDPE and PP bottles.
- Includes postconsumer recycling values for PET developed by the National Association for PET Container Resources (NAPCOR) and APR.
- Reclaimer survey portion conducted by Moore Recycling Associates, Inc.

Find All Rate Reports Here:



[Click here to access 2015 National Postconsumer Plastics Bottle Recycling Rate Report](#)

Recycling Rate Reports 2007-2015

- All Bottle
- PET Rate
- Non-Bottle Rigid Plastic
- Plastic Bags & Film

Rate Reports

National Postconsumer Plastics Bottle Recycling Rate Reports

The 2013 edition of the United States National Post-Consumer Plastics Bottle Recycling Report is the 24th annual report on plastic bottle recycling. This study is a cooperative effort between the Plastics Division of the American Chemistry Council (ACC) and the Association of Postconsumer Plastic Recyclers (APR), the goal of which is to quantify the amount of high density polyethylene (HDPE) and polypropylene (PP) bottles collected for recycling, as well as the rate of recycling of those bottles. This study includes postconsumer recycling values and comments for polyethylene terephthalate (PET) developed by the National Association for PET Container Resources (NAPCOR) and the Association of Postconsumer Plastic Recyclers (APR). The reclaimer survey portion of the study was conducted by the Moore Recycling Associates, Inc.

[2015](#) [2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#) [2008](#) [2007](#)

Postconsumer PET Container Recycling Activity Reports

2013 marks the nineteenth year that the National Association for PET Container Resources (NAPCOR) has issued this report in its current format, and the ninth year that NAPCOR and The Association of Plastic Recyclers (APR) have worked together to produce it. This report would not be possible without the APR's support and the cooperation of its members. It is intended to provide the reader with a detailed overview of the recycling of injection stretch blow molded polyethylene terephthalate (PET) bottles and jars in the United States during 2013, and a general summary of the recycling of PET thermoforms. Information contained in this report was obtained through surveys conducted by HDR, Inc. and Moore Recycling Associates, and from data generated internally by NAPCOR and L.O.M. Enterprises.

[2015](#) [2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#) [2008](#) [2007](#)

National Postconsumer Non-Bottle Rigid Plastic Recycling Reports

The 2013 National Postconsumer Recycling Report on Non-Bottle Rigid Plastics is the seventh annual report on U.S. pounds of postconsumer non-bottle rigid plastics—packaging and non-packaging—recovered for recycling. Research for this report was conducted by Moore Recycling Associates Inc. of Sonoma, California, for the Plastics Division of the American Chemistry Council.

[2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#) [2008](#) [2007](#)

Plastic Bags & Film Reports

The National Postconsumer Plastic Bag and Film Recycling Reports detail the amount of plastic bags and film recovered in the United States for recycling. Research for these reports was conducted by Moore Recycling Associates Inc. for the Plastics Division of the American Chemistry Council.

[2014](#) [2013](#) [2012](#) [2011](#) [2010](#) [2009](#) [2008](#) [2007](#) [2006](#) [2005](#)



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2015 Highlights

- The total pounds of plastic bottles collected for recycling fell slightly from 2014 totals to 2,977 million pounds.
- The total pounds of plastic bottles collected decreased by 14 million pounds for 2015 over 2014.
 - decreases for PET and HDPE
 - increase for restated PP bottle resins.



2015 Highlights

- The total plastic bottle recycling collection rate was 31.1%.
 - decrease of 0.6 percentage point from 2014 bottle collection rate of 31.7%



2015 Highlights

- Annualized change in pounds of plastic bottles collected for recycling numerator: **-0.5%**.
- Five year compounded annual growth rate for plastic bottle recycling: **2.9%**.



2014 Correction

- Error in 2014 reported numbers
 - Too much PP was reported as bottle, not rigids
 - Additional recycled HDPE found
- 2014 Correction
 - rHDPE bottles went from 1107.4 to 1148.6 M lbs.
 - rPP bottles went from 79.5 to 26.6 M lbs.
 - Total bottle PCR went from 3003 to 2991 M lbs.



2015 Postconsumer Plastic Bottle Recycling

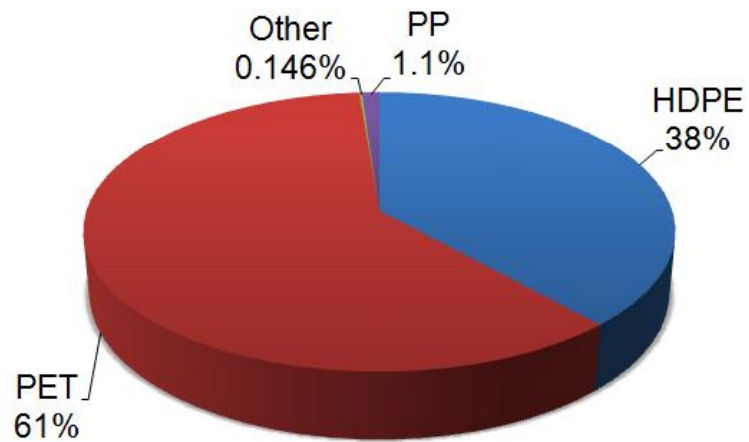
Plastic Bottle Type	Plastic Recycled	Resin Sales	Recycling Rate
PET	1797	5971	30.1%
HDPE Natural	465.5	1527	30.5%
HDPE Pigmented	678.3	1795	37.8%
Total HDPE Bottles	1143.8	3322	34.4%
PVC	1.1	33	3.3%
LDPE	3.3	80	4.1%
PP	31.8	177	17.9%
Other	5.2		
Total Bottles	2977	9583	31.1%



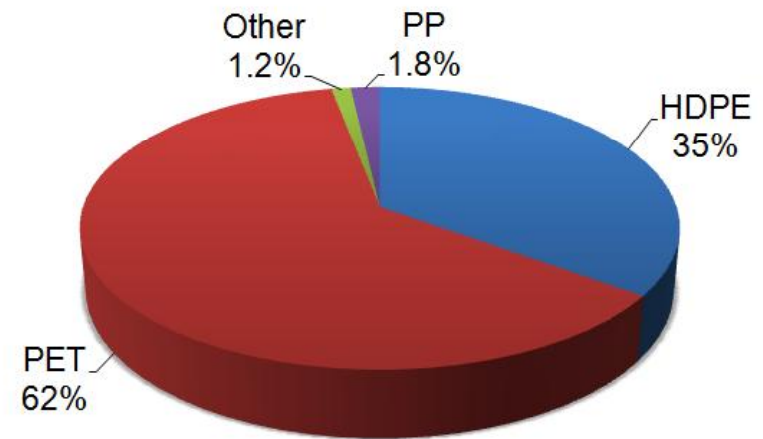
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Plastic Bottles Recycled and Plastic Bottle Production by Resin in 2015

Plastic Bottles Recycled

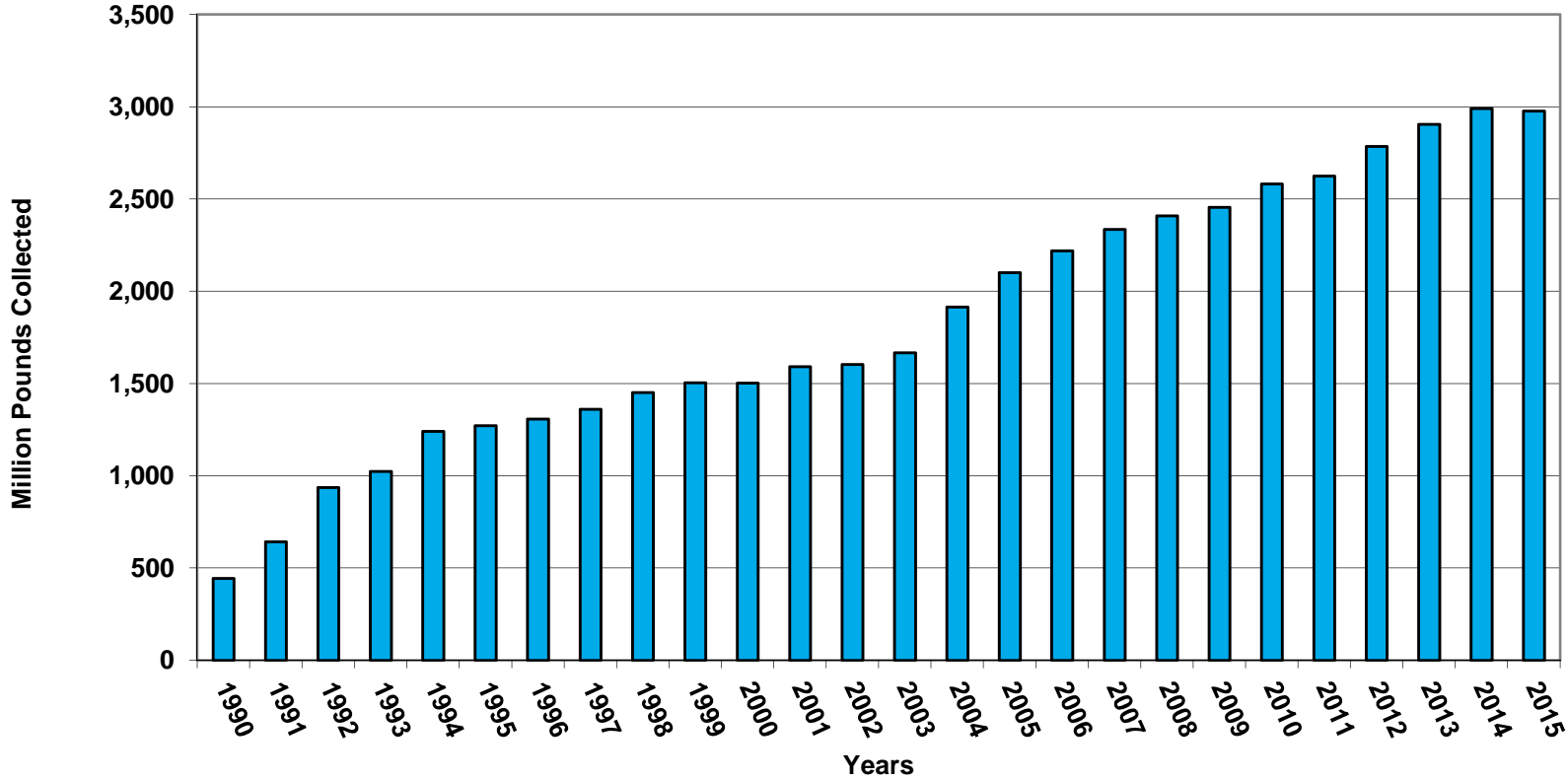


Plastic Bottle Production



Source: Moore Recycling Associates, Inc. 2016
NAPCOR 2016

Growth in Postconsumer Plastic Bottle Recycling



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Total Numerator – Plastics Bottles Collected for Recycling

	Calendar Year 2014	Calendar Year 2015	Total Change	Total Change
Plastic Bottle Type	Plastic Recycled	Plastic Recycled	Pounds	%
PET	1812	1797	-15	-0.8%
HDPE Natural	477.0	465.5	-11	-2.4%
HDPE Pigmented	671.6	678.3	7	1.0%
Total HDPE Bottles	1149	1143.8	-4.8	-0.4%
PVC	0.6	1.1	0.5	74.9%
LDPE	3.7	3.3	-0.5	-13.0%
PP	26.6	31.8	5.2	19.5%
Other	2.4	5.2		
Total Bottles	2991	2977	-14	-0.5%



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Denominator

- Includes both virgin and recycled plastic.
- Only bottles, not rigid non-bottle plastic



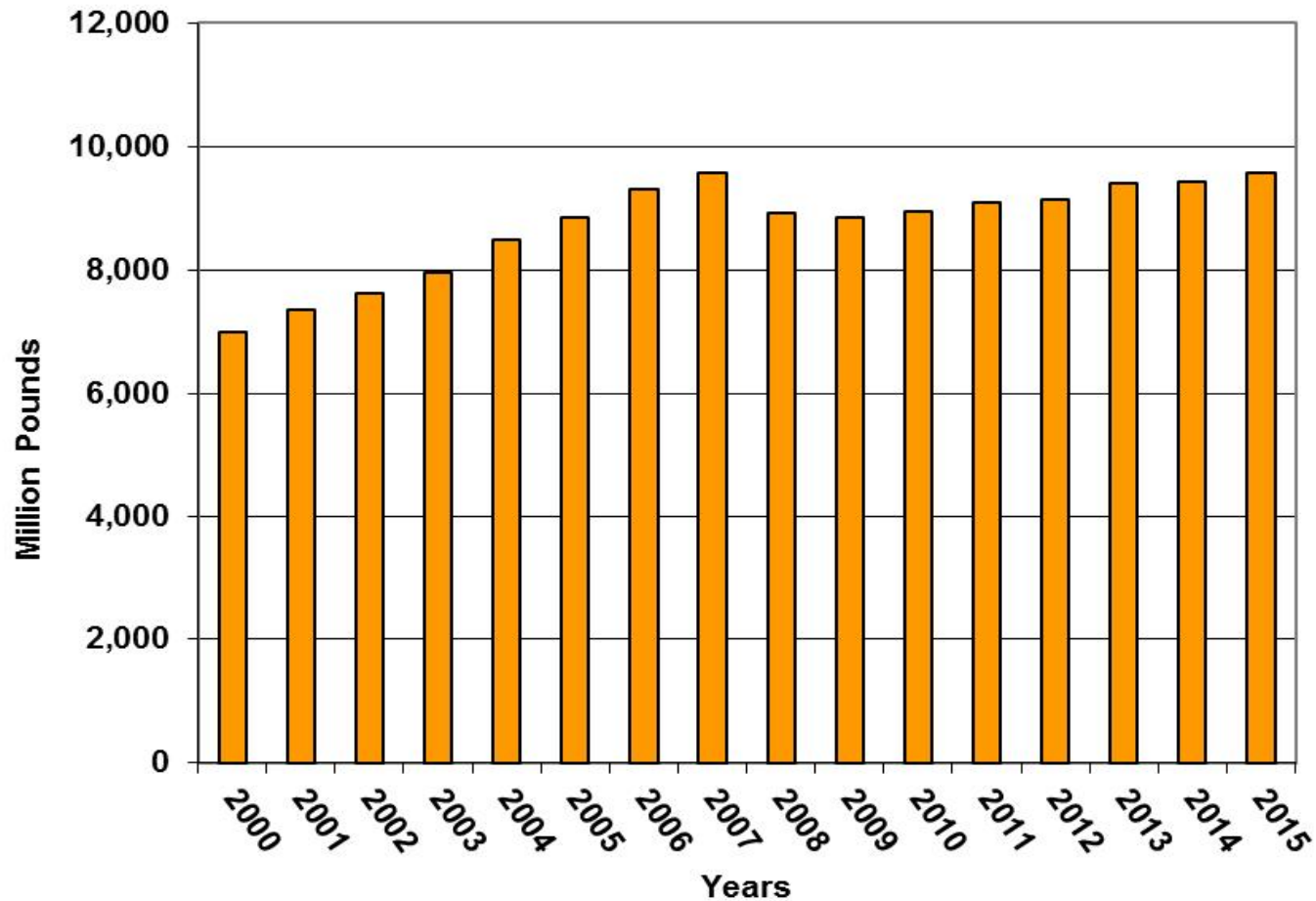
Total Denominator – Plastic Bottles in the Marketplace

	Calendar Year 2014	Calendar Year 2015	Total Change	Total Change
Plastic Bottle Type	Resin Sales	Resin Sales	Pounds	%
PET	5849	5971	122	2.1%
HDPE Natural	1551	1527	-24	-1.5%
HDPE Pigmented	1761	1795	35	2.0%
Total HDPE Bottles	3312	3322	11	0.3%
PVC	36	33	-3	-8.3%
LDPE	76	80	4	5.3%
PP	177	177	0	0.0%
Other				
Total Bottles	9436	9583	148	1.6%



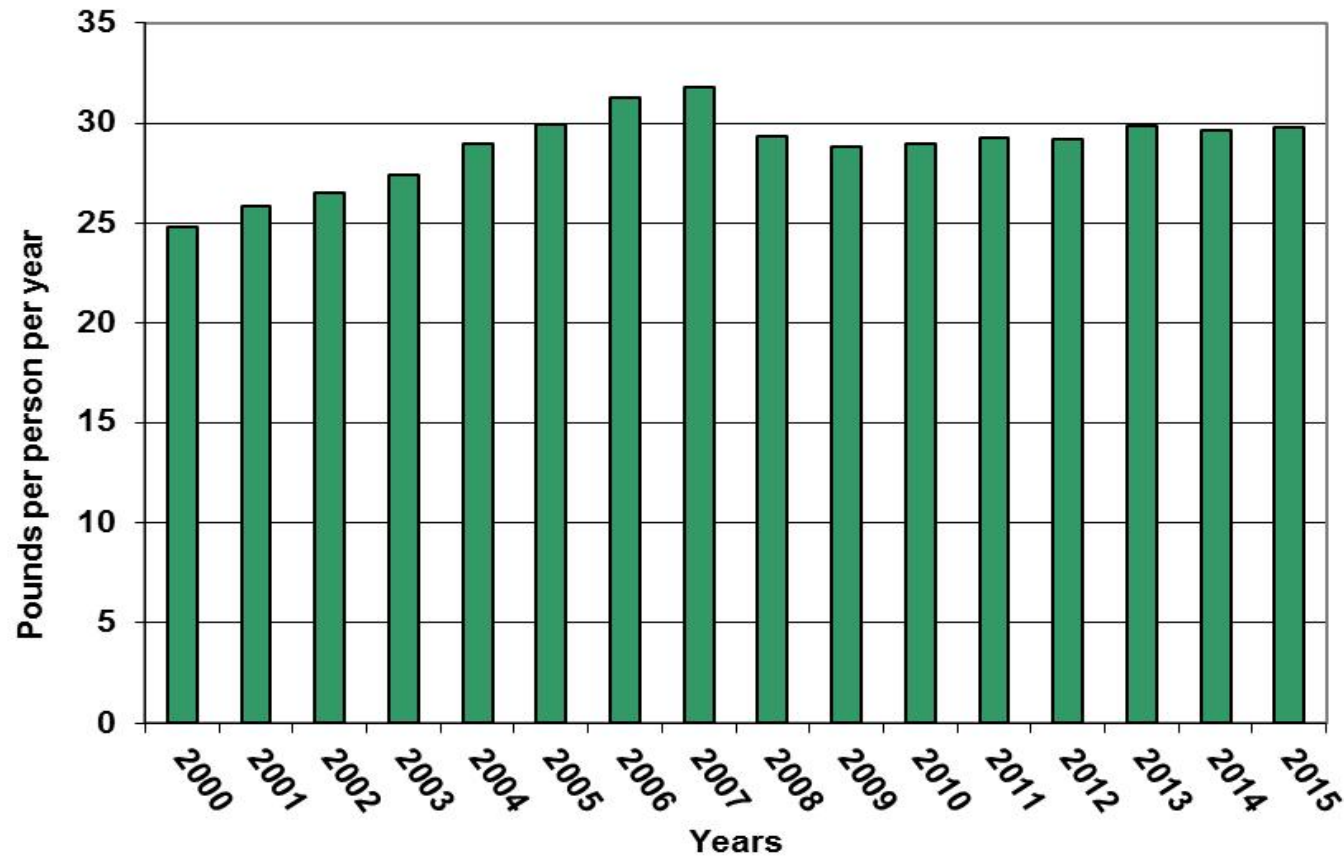
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Plastic Resin Used for Bottles in USA



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Per Capita Consumption of Plastic Bottles in USA



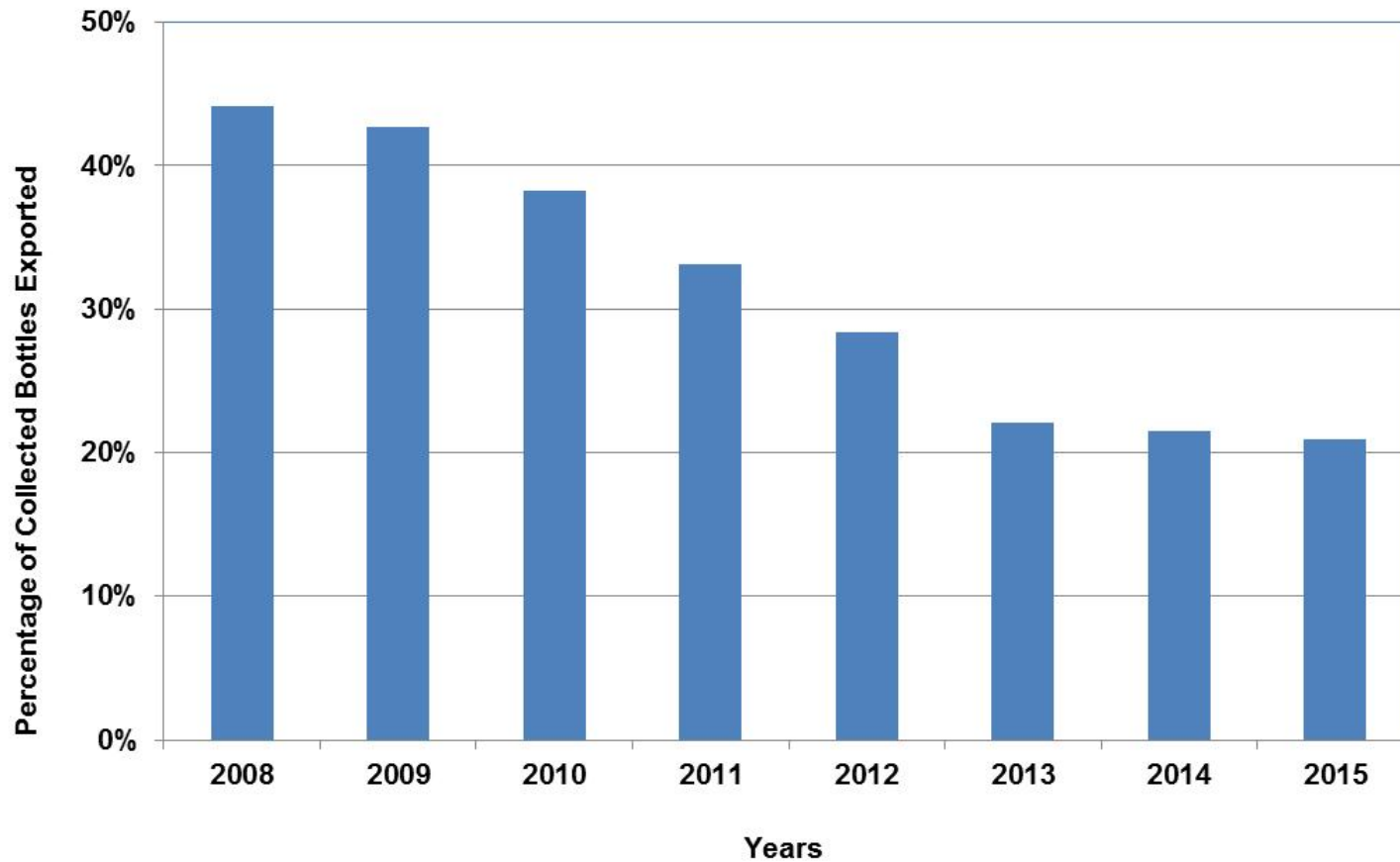
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Collection Rate for Recycling 2015 vs. 2014 Plastic Bottles

	Calendar Year 2014	Calendar Year 2015	Rate Change
Plastic Bottle Type	Recycling Rate	Recycling Rate	
PET	31.0%	30.1%	-0.9%
HDPE Natural	30.8%	30.5%	-0.3%
HDPE Pigmented	38.5%	37.8%	-0.7%
Total HDPE Bottles	34.8%	34.4%	-0.4%
PVC	1.7%	3.3%	1.6%
LDPE	4.9%	4.1%	-0.9%
PP	15.0%	17.9%	2.9%
Other			
Total Bottles	31.7%	31.1%	-0.6%



Exports of All PCR Bottles



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Individual Resins

2015 rPET

- PET bottles collected decreased by 15.0 million pounds for a total of 1,797 million pounds.
- Recycling collection rate dipped slightly from 31.0% in 2014 to 30.10% in 2015.
- Capacity utilization as reported dropped to 58% as production down and capacity up.
- Surrogate for yield rose, possible result of inventory management.



2015 rHDPE

- HDPE bottles collected fell by 4.8 million pounds to 1,143.8 million pounds.
- The HDPE bottle recycling collection rate fell to 34.4% from 34.8%.
 - The numerator fell while the denominator increased.



2015 rHDPE

- Exports of United States collected HDPE bottle material fell to 184 million pounds, 16.1% of domestically collected material.
- Imports of postconsumer HDPE to the United States rose by 25% to 65.9 million pounds.

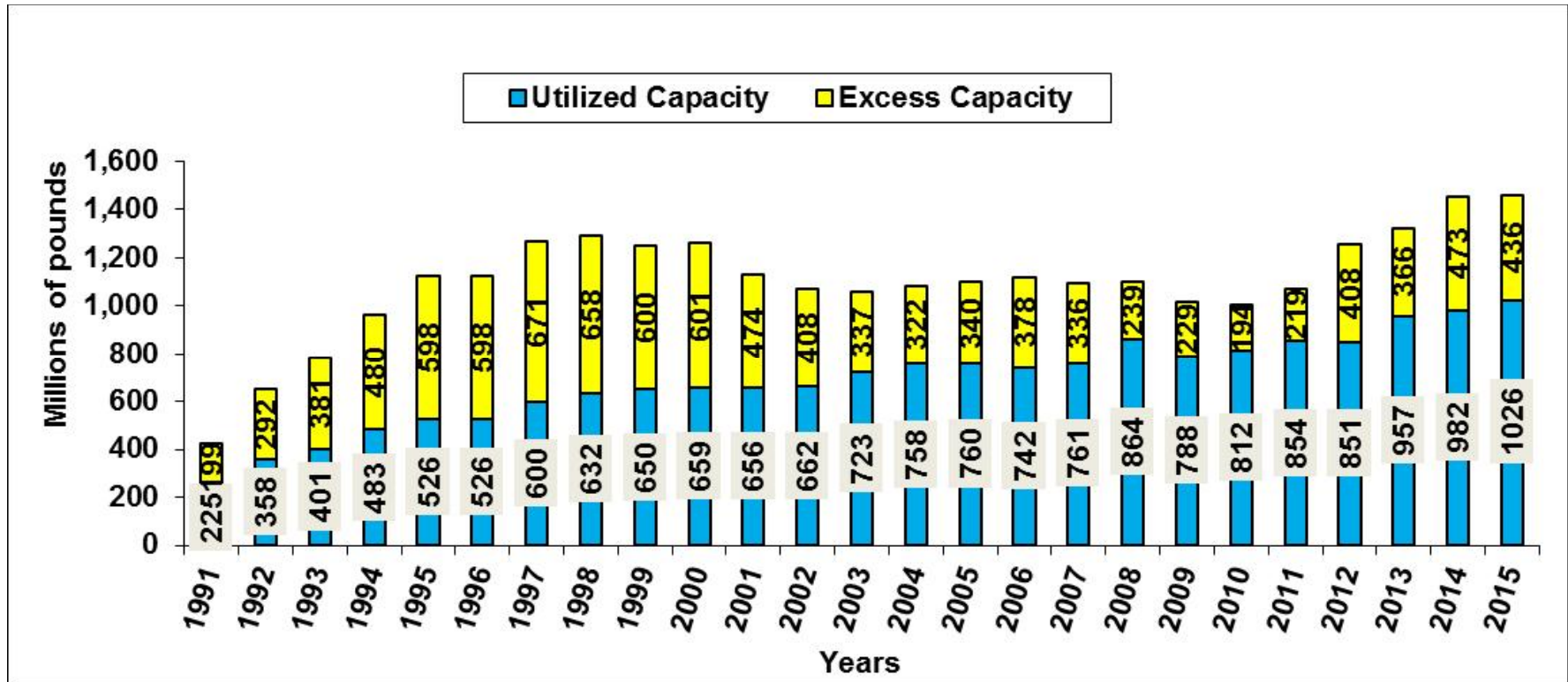


2015 rHDPE

- With rising imports, decreased collection, and decreased exports the volume of purchases for US reclamation plants was up 43.7 million pounds since last year to 1025.7 million pounds - **another all-time high.**
- Process yield varied with end use, about 80%, lower than last year.
 - Situation different than PET's.



HDPE Wash Capacity, as reported



2015 rHDPE

- 70% capacity utilization for postconsumer bottles by our method of calculation, up from last year's 68%.
 - Capacity increased, usage up
 - 2015 capacity: 1,461 million pounds
 - Some capacity could be used for other than postconsumer bottles.

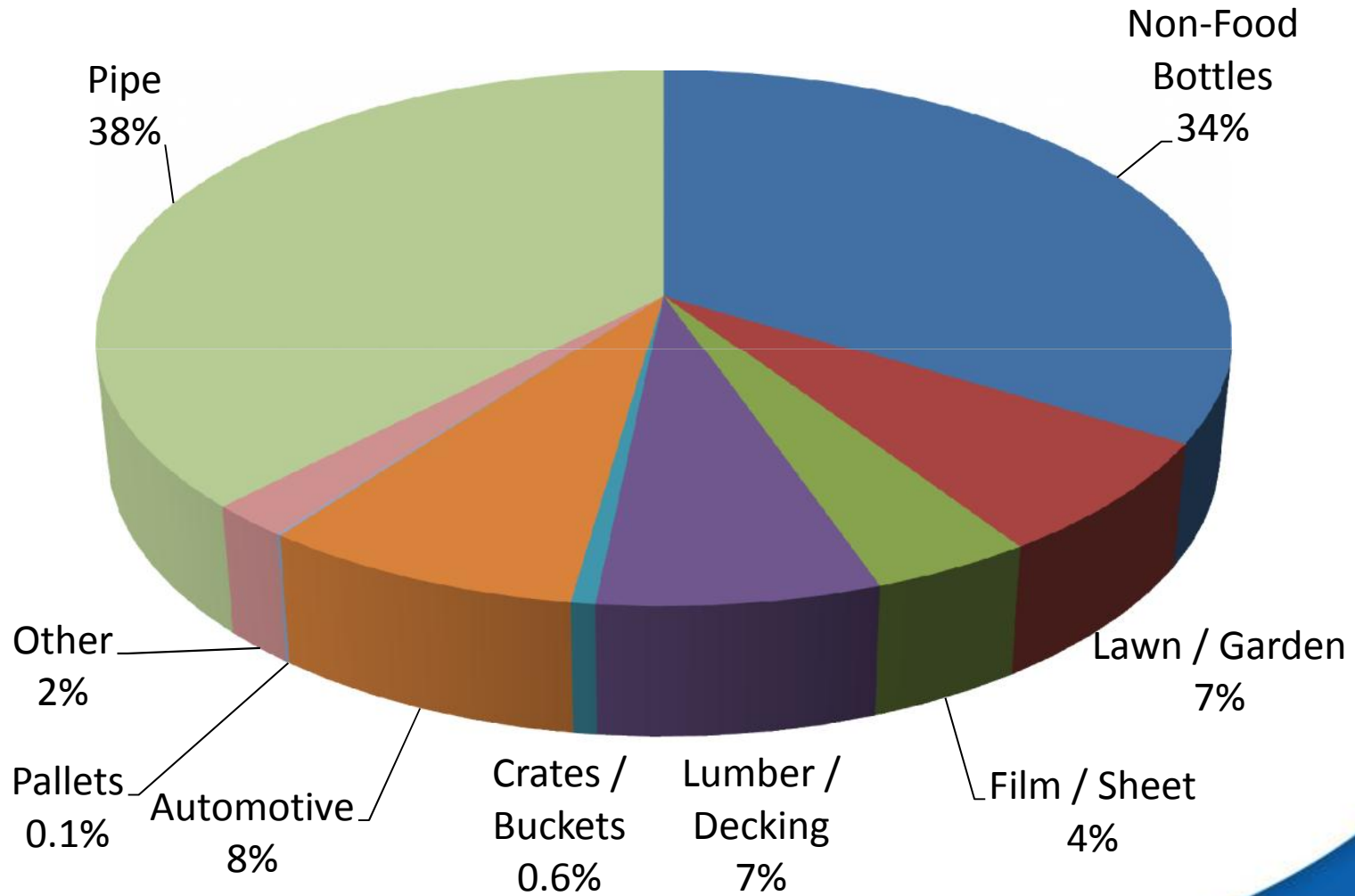


2015 rHDPE

- 28 HDPE reclaimers, 8 did 78% of production, a bit less than 2014. Added net 3 reclaimers reporting
- Primary rHDPE uses:
 - Bottles, 34% in 2015
 - Pipe, 38% in 2015
- Film & sheet, automotive – pounds down
- Bottles, pipe, lawn & garden, decking – pounds up



End Uses for Recycled HDPE in 2015



2015 rPP Bottles

- PP bottle recycling collection totaled 31.8 million pounds,
 - Increase of 19.5% over 2014's corrected value of 26.6 million pounds.
- PP bottle sales held steady at 177 million pounds for 2014 and 2015.



2015 rPP Bottles

- The collection rate rose to 17.9% in 2015 compared to 15.0% in 2014. The numerator rose and the denominator held steady.



2015 rPP Bottles

- 28% of collected PP bottles exported
 - most as mixed bales of bottles and rigids
- Recycled PP bottles used for pallets, crates, and buckets as in 2014.



PVC and LDPE Bottles

- Only 1.1% of all bottles
- 98% of PVC and 100% LDPE recycled bottles collected as part of commingled bales.
- 61% of PVC bottles exported in commingled bales
- 89% of LDPE bottles exported in commingled bales



Other Bottles

- 2.9 million pounds of polycarbonate bottles were collected and all exported in mixed bales.
- Mixed bales included:
 - 388 M lbs. non-bottle rigids
 - 74 M lbs. #1-#5 bottles
 - 5 M lbs. #6 & #7 bottles
 - 68 M lbs. trash



2015 Economic Impact

- Value of purchased bales of postconsumer bottles of PET and HDPE was approximately \$508 million in 2015.
 - Down 30% from \$730 million in 2014 and \$608 million in 2013.



Average Bale Prices

- PET : \$0.129/lb
- Natural HDPE: \$0.282/lb
- Pigmented HDPE: \$0.214/lb
- Combined bottle: \$0.173/lb.



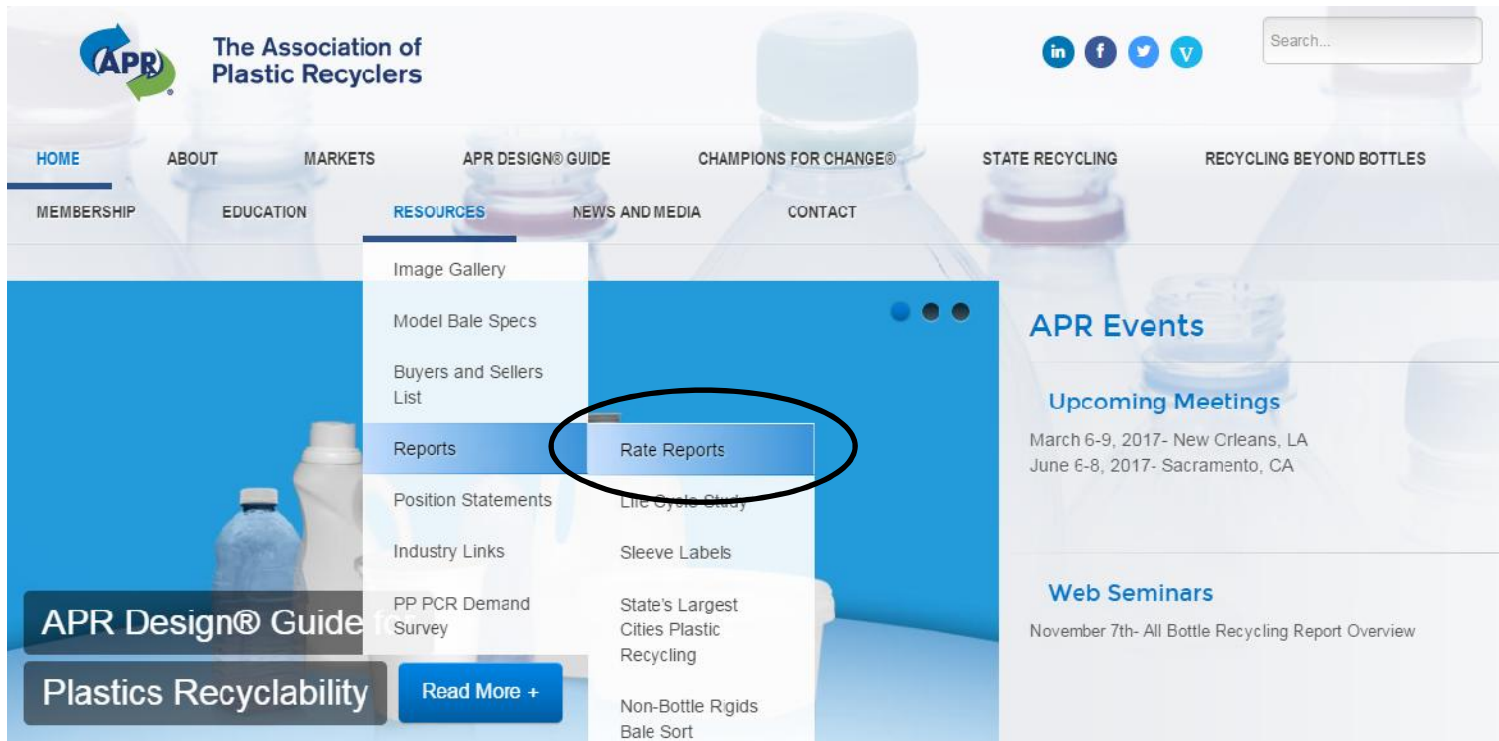
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Questions?

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