



National Association for PET Container Resources

RPET Market Opportunities and Challenges

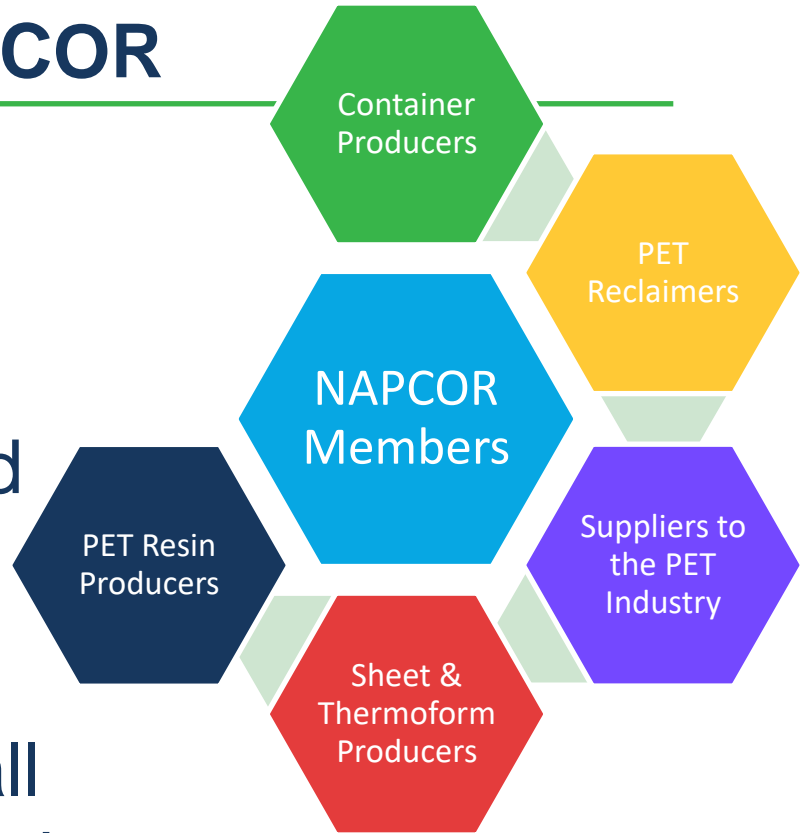
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INTRODUCTION TO NAPCOR

NAPCOR is the trade association for the PET packaging industry in the United States, Canada and Mexico, headquartered in Charlotte, North Carolina.

52 members encompass all facets of the PET value chain.



POSITIVELY PET BY NAPCOR - OBJECTIVES

- Stem the anti-plastic—and, specifically anti-PET—sentiment.
- Put pro-PET advocacy strategies in motion.
- Build consumer confidence in, and appreciation for, PET-based products, packaging and brands.
- Drive brands to embrace PET as the best choice for their business and the environment.
- Create a strong, common voice for the PET industry.
- Engage NAPCOR membership, partners, customers and consumers through accurate, meaningful and creative communication, and mobilize them to take the lead in a turn-around for the PET industry.

2019 PET BOTTLE RECYCLING RATE IN THE US

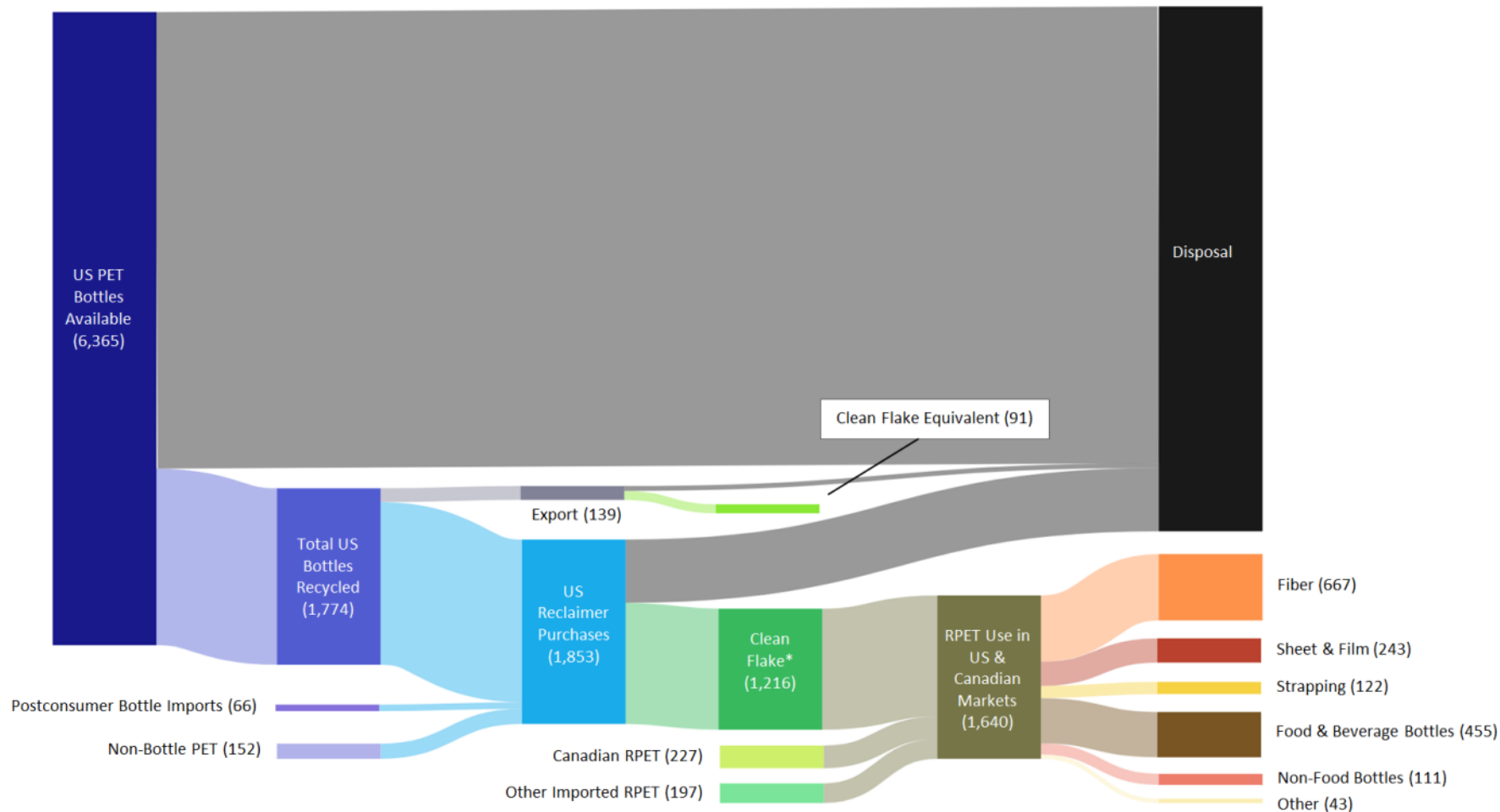
1,774 MMlbs Bottles Collected

6,365 MMlbs Bottles Available

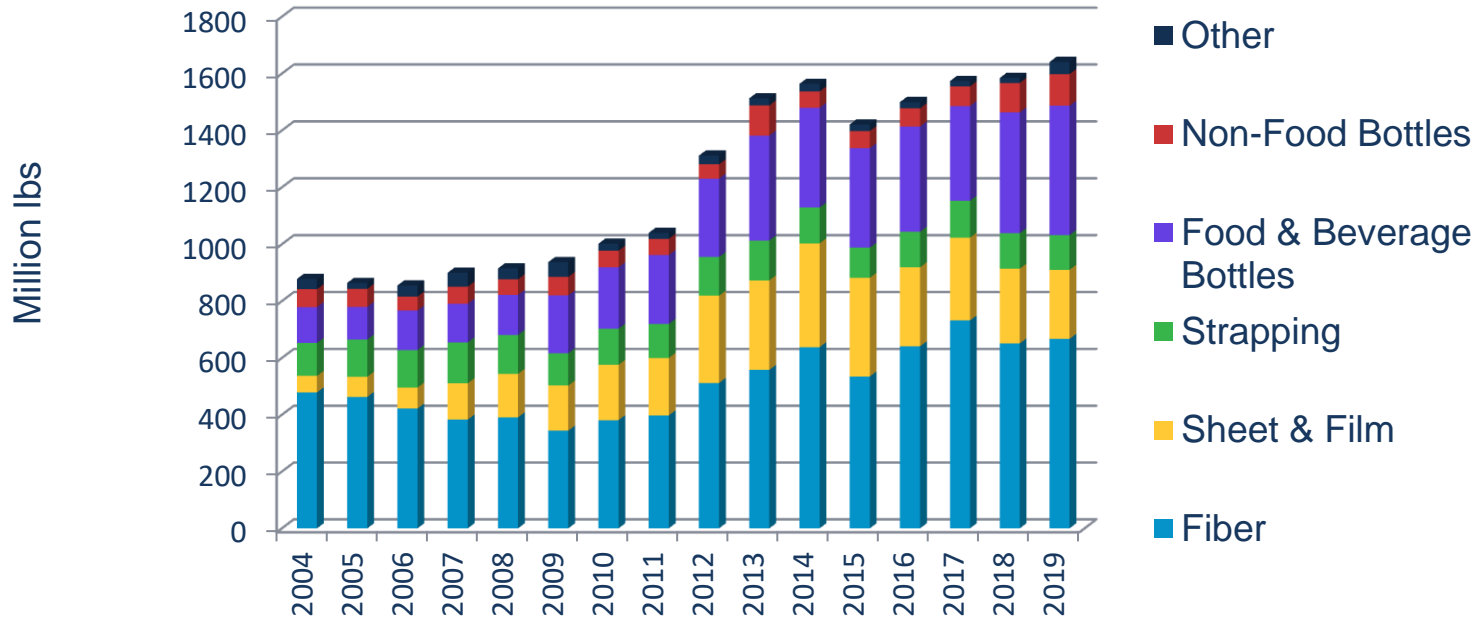
= 27.9%

2018 rate: 28.9%

PET MATERIAL FLOWS IN THE US



RPET END MARKETS (US & CANADA)



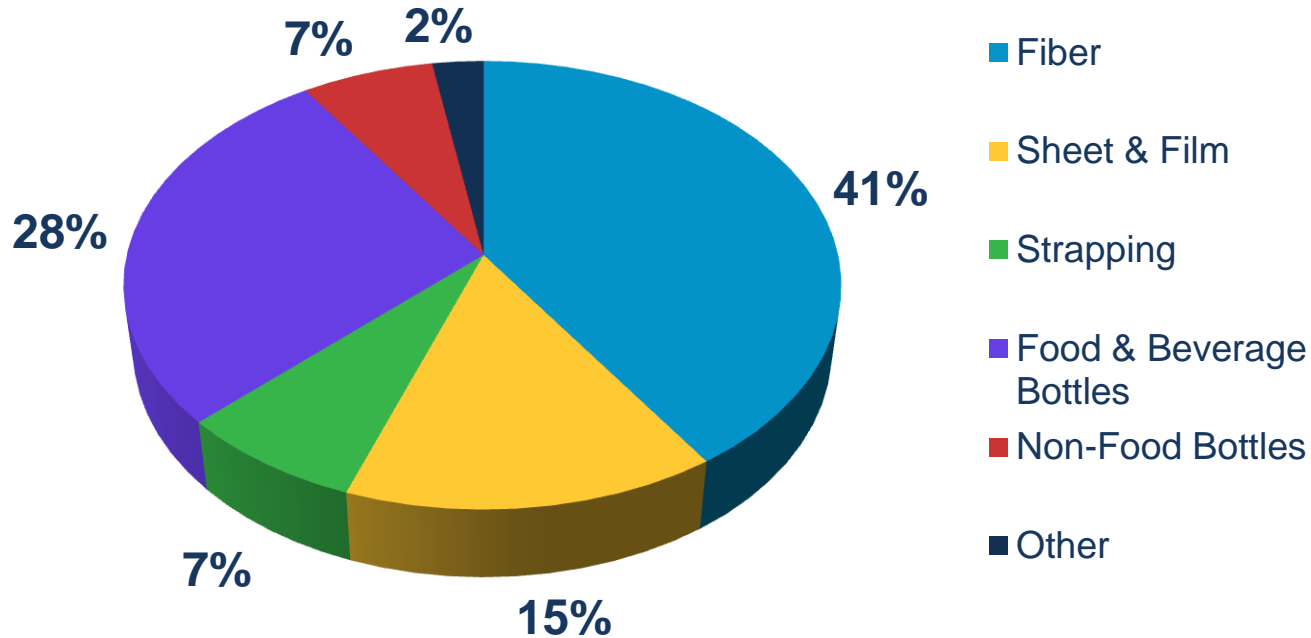
END MARKETS

- Overall RPET consumption up 3.5%, including imports
- Consumption in bottles increased by 7%
 - Very similar growth across Food/Beverage and Non-Food/Beverage Bottle categories
- Sheet / Film down 8% from 2018; total packaging applications (bottles plus sheet) use up 2%
- Fiber usage up by 2.5%; non-Canadian RPET imports going primarily to this market.
- Strapping down 2.5% from 2018

US CONSUMPTION OF RPET IN FIBERS IN 2019 – NAPCOR SURVEY

- The survey reports domestic production of RPET staple fiber = **316 million lbs.**
- The survey reports domestic production of RPET filament = **434 million lbs.**
- We estimate the share of RPET staple fiber imports = **326 million lbs.**
- Therefore we estimate that US consumption of RPET based fibers in 2019 = **1.076 billion lbs**
- As context this amount of RPET would be equivalent to 17% RPET content in all US PET bottles!

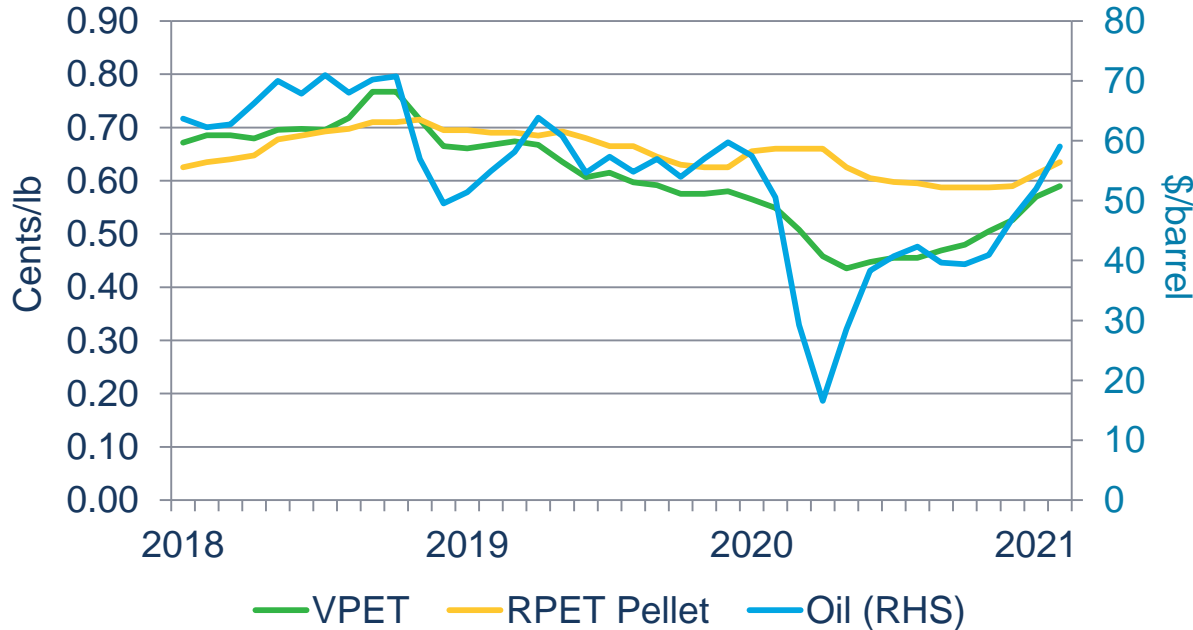
RPET PRODUCT CATEGORIES 2019



END USE PROSPECTS

- PET is the most recyclable of all plastics with major markets in fibers – from Apparel to PPE to Carpet to Home Textiles; and Packaging – from Bottles to Clamshells to Cups to Strapping.
- RPET (Recycled PET) is in strong demand for all the above end uses and demand is going to increase as RPET content in bottles is either mandated or a voluntary commitment.
- But there has been a problem with cost of RPET being at a premium to cost of VPET (Virgin PET). Premiums as high as 45% over VPET.

OIL IMPACT ON PRICING OF VPET & RPET



As oil prices dropped in Q1 2020, virgin PET (VPET) prices also fell.

RPET pellets remained steady leading to a premium for RPET over VPET.

As oil increases in Q1 2021, VPET prices increasing and in March expect VPET and RPET to be very similar.

BRAND COMMITMENTS - SAMPLES



Coca-Cola debuts 100% recycled PET bottle for US. Sprite brand will also begin transitioning to a clear bottle. Feb 2021

PepsiCo to transition to 100% recycled PET in EU - The move to 100 percent recycled PET is estimated to eliminate over 70,000 metric tons of virgin, fossil-fuel based plastic per year. Dec 2020

Keurig Dr Pepper's Snapple and Core bottles are transitioning to 100-percent rPET by 2021. Oct 2020

Nestle investing up to \$2 billion to lead the shift from virgin plastics to food-grade recycled plastics,

LEGISLATION - STATE

- California passed RPET content requirement for CRV bottles of : 15% in 2022, 25% in 2025, 50% in 2030. Penalties for failure.
- New Jersey state senator introduces a bill based on CA RPET content mandates....but NJ does not have a deposit system – will they use RPET from other states?
- Washington State RPET content legislation passed Senate, now in the House. 15% in 2023, 25% in 2026, 50% in 2031. Considering a deposit bill, but not yet in place.
- Many other States considering legislation.

LEGISLATION - FEDERAL

- “Break Free from Plastics” is in Congress and includes a national mandate for RPET content. Will the new administration push for it?
- “CLEAN Futures Act” a 981 page document which covers many of the BFFP act and includes a national deposit system to encourage recycling of bottles and containers.
- “Save our Seas”, “Zero Waste” and the EPA “National Recycling Strategy”
- For PET a common theme is increased RPET content in bottles. We are also seeing RPET content in PET thermoforms (clamshells etc) at the legislative level.

LEGISLATION

- PET is the most recyclable of all plastics – so we see most of this legislation as positive for PET....BUT, there is a problem!
- **COLLECTION!!**
- Typically the US only collect approx 30% of our PET bottles, and 2019 fell to 28%, so it is going to be difficult to have 50% RPET content if we only collect 30% to go back through recycling!
- We have to improve **Collection** if we are going to meet **Legislation** requirements and **Brand Commitments**.
- NAPCOR has modelled the issue and there is a lot of work to be done to have any chance of meeting the goals.

MARKET CONCLUSIONS

- Demand for RPET is going to increase significantly with both Voluntary Brand Commitments and Legislative rulings requiring increased RPET volumes.
- 2019 consumption of RPET into all end uses = 1.64 billion lbs.
- If it is mandated nationally that bottles are to have RPET content of 25% in 2025 we will require 2.46 billion lbs of domestic RPET for all end uses.
- This will require \$1 billion investment in additional reclamation capacity, but the greatest challenge will be collection of PET bottles.
- Current collection rate = 28%, Needed 2025 collection rate = 49%



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THANK YOU



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