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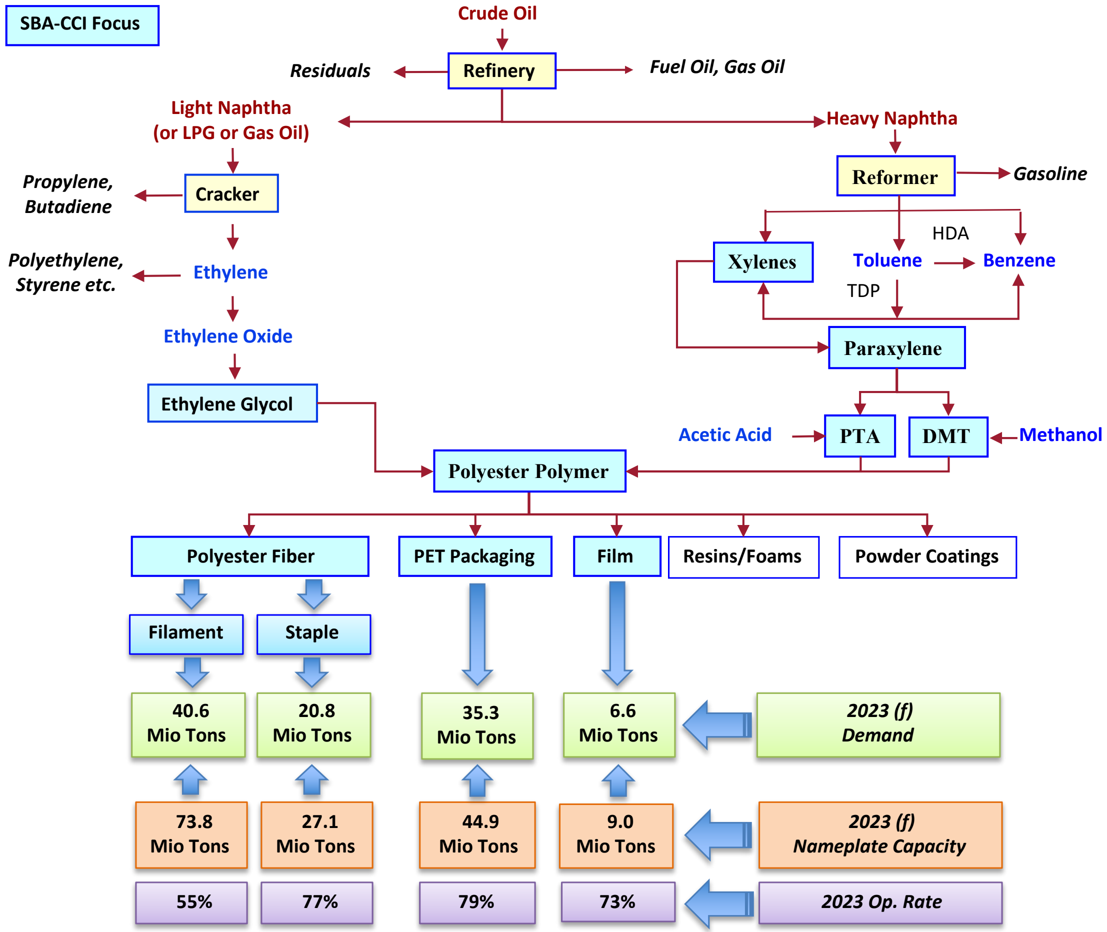
Strategic Business Analysis

The Petcore Europe Conference 2023

February 2rd, 2023 - Brussels (Belgium)

The Polyester Value Chain



Key Raw Materials for PET

WTI	Oil &/or Natural Gas
MX/PX	Mixed Xylenes & Paraxylene
PTA	Purified Terephthalic Acid
MEG	Mono-Ethylene Glycol
PET	Polyester Polymer

1

Beverages Demand

- Worldwide and EU perspective.
- Key focus on Carbonates and Packaged water categories.

2

PET Bottle Grade – Supply and Demand

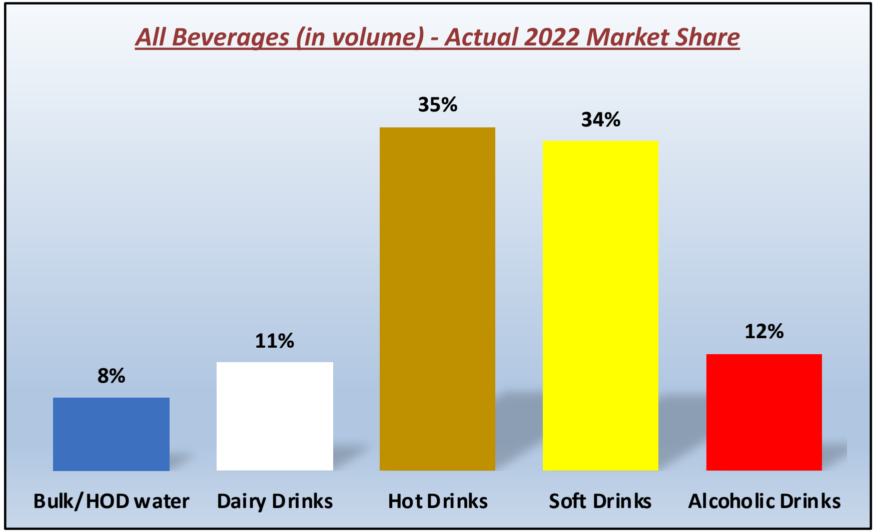
- Worldwide and EU PET Packaging Resin situation.
- Future of the EU PET industry.

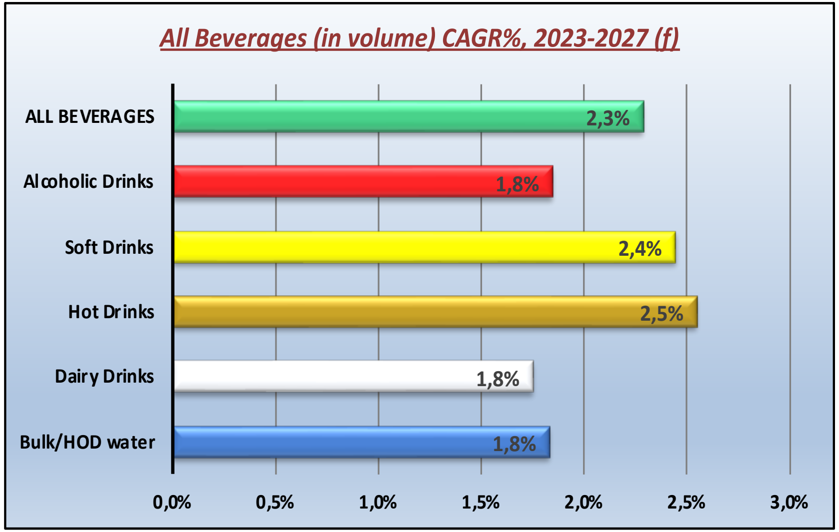
3

rPET status in Europe

- EU Packaging Waste regulations and key issues.
- Myths and realities.

Worldwide Industry Snapshot



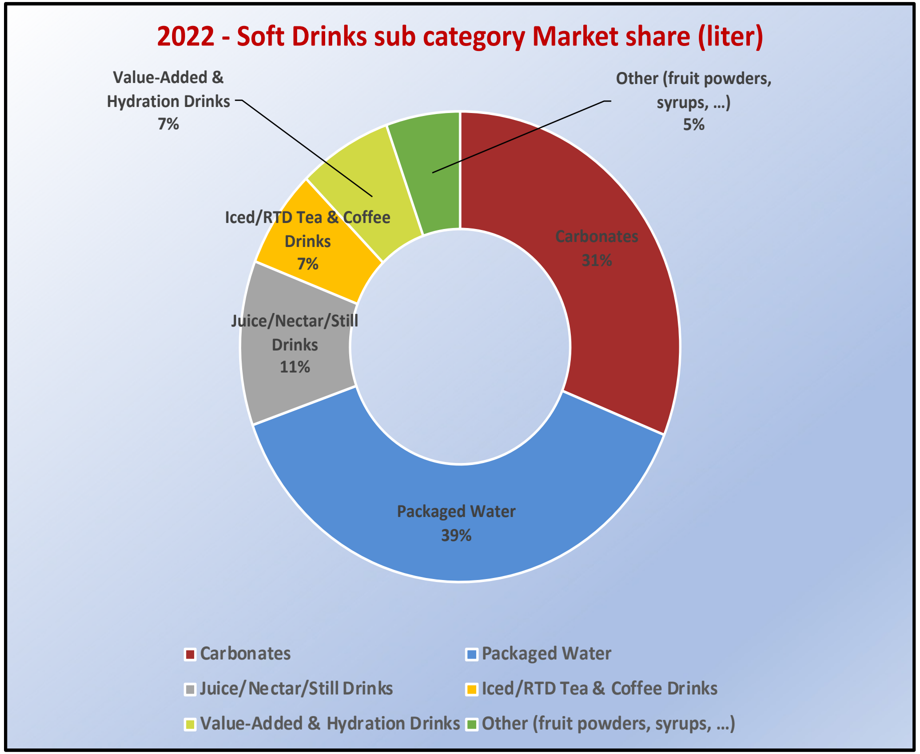


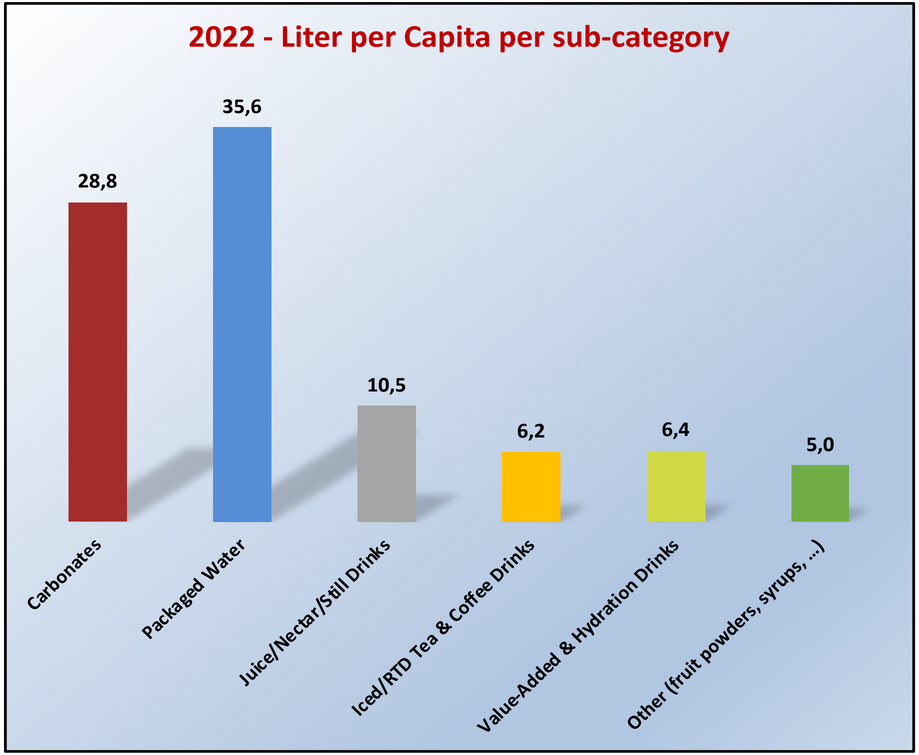
Global Soft Drinks Outlook by Region (volume in liter)

REGION	% Soft Drinks vs All Beverages (2022)	2000-2022 Growth (%)	2022-2023 (f) Growth (%)
Africa	*27%*	7.2%	3.4%
Asia	*25%*	7.1%	5.4%
Australasia	*27%*	2.7%	2.3%
East Europe	*28%*	3.8%	2.2%
Latin America	*37%*	2.6%	2,1%
Middle East & North Africa	*30%*	7.5%	3.6%
North America	*60%*	1.6%	1.7%
West Europe	*41%*	0.9%	0.5%
WORLDWIDE	***34%***	**3.6%**	**3.1%**

Soft Drinks Category incl :
- *Carbonates*
- *Packaged water*
- *Juice & Nectars*
- *Still drinks*
- *Iced RTD Tea Drinks*
- *Iced RTD Coffee Drinks*
- *Value-added and hydration drinks …*

Year 2022 Global Soft Drinks by sub-category





Packaged Water and Carbonates categories are accounting for almost 70% of the SD category.

Global Packaged water Outlook by Region

REGION	Liter per Capita (2022)	2000-2022 Growth (%)	2022-2023 (f) Growth (%)
Africa	*9*	12.9%	3.5%
Asia	*24*	11.2%	5.5%
Australasia	*41*	5.8%	2.5%
East Europe	*71*	5.2%	2.4%
Latin America	*26*	3.9%	1.2%
Middle East & North Africa	*47*	9.5%	4.1%
North America	*102*	7.5%	3.2%
West Europe	*112*	1.5%	-0.5%
WORLDWIDE	***35.6***	**6.2%**	**3.3%**

Consumers's demand for healthy refreshment will continue to drive volume and value sales but high inflation will create headwinds for the category.

Packaged Water Performance – Top 10 Economies + EU

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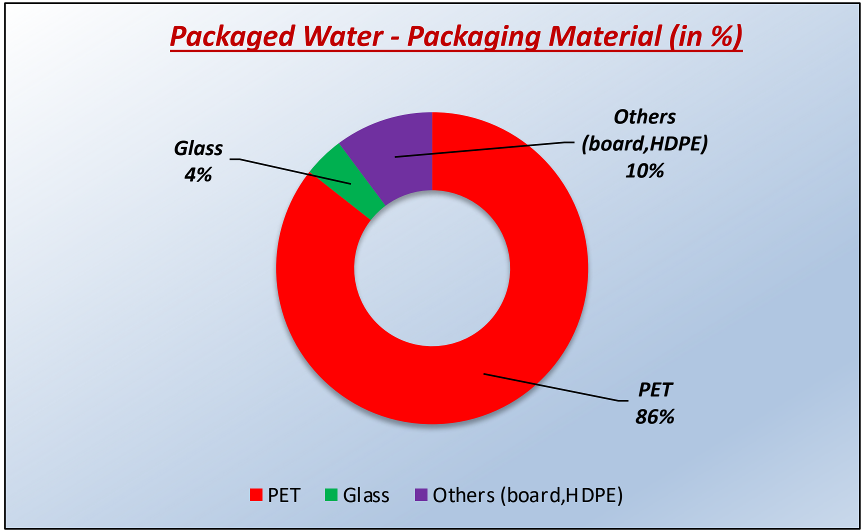
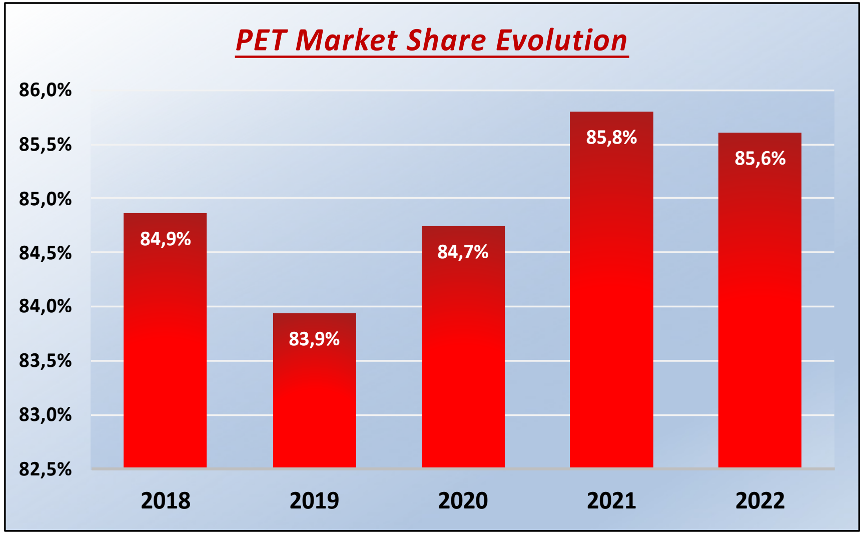
Countries	Liter per Capita (2022)	2021-2022 Growth %		2022-2023 (f) Growth %	
		Volume (liter)	Value ($)	Volume (liter)	Value ($)
United States of America	*146*	3.9%	9.7%	3.2%	3.7%
China	*36*	1.9%	3.1%	3.1%	4.0%
Japan	*32*	9.4%	13.4%	3.6%	9.8%
Germany	*144*	-1.8%	6.0%	-1.0%	6.3%
India	*12*	10.2%	15.2%	13.5%	12.5%
United Kingdom	*36*	3.1%	14.0%	1.7%	8.7%
France	*134*	4.1%	7.3%	1.0%	3.8%
Italy	*184*	2.2%	5.7%	-2.6%	2.4%
Brazil	*17*	11.5%	28.8%	3.4%	13.3%
Canada	*71*	7.5%	15.4%	3.7%	9.3%
European Members	*115*	2.0%	8.6%	-0.1%	4.5%

Worldwide Packaging Material Snapshot - Packaged Water





- PET dominates the soft drinks packaging materials market, cornering 86% volume share in 2022.
- Despite the growing consumers and legislator push against plastic packaging, PET remains the most economic and pragmatic option for brand owners due to its low cost, and lightweight.

Global Carbonates Outlook by Region

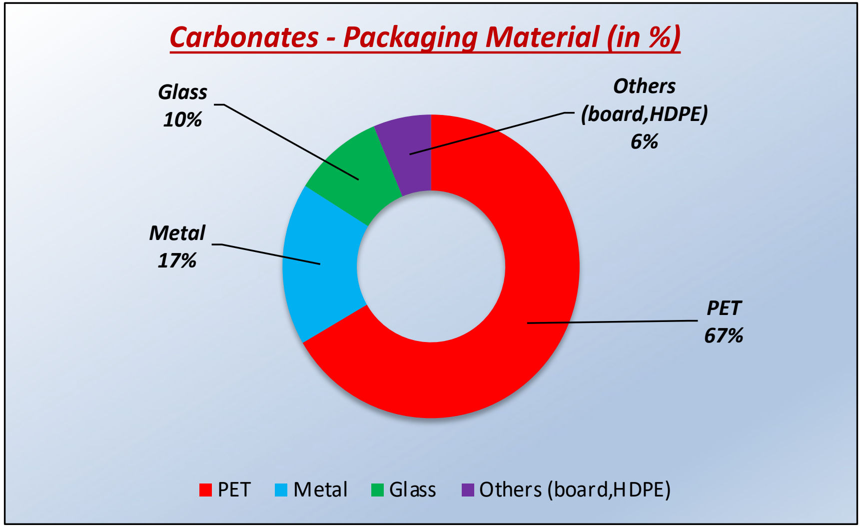
REGION	Liter per Capita (2022)	2000-2022 Growth (%)	2022-2023 (f) Growth (%)
Africa	*10*	6.1%	3.7%
Asia	*12*	5.3%	5.8%
Australasia	*86*	3.1%	2.4%
East Europe	*58*	2.4%	1.6%
Latin America	*87*	1.8%	2.2%
Middle East & North Africa	*32*	5.7%	3.5%
North America	*84*	-1.4%	-1.2%
West Europe	*57*	0.2%	1.7%
WORLDWIDE	***28.8***	**1.7%**	**2,5%**

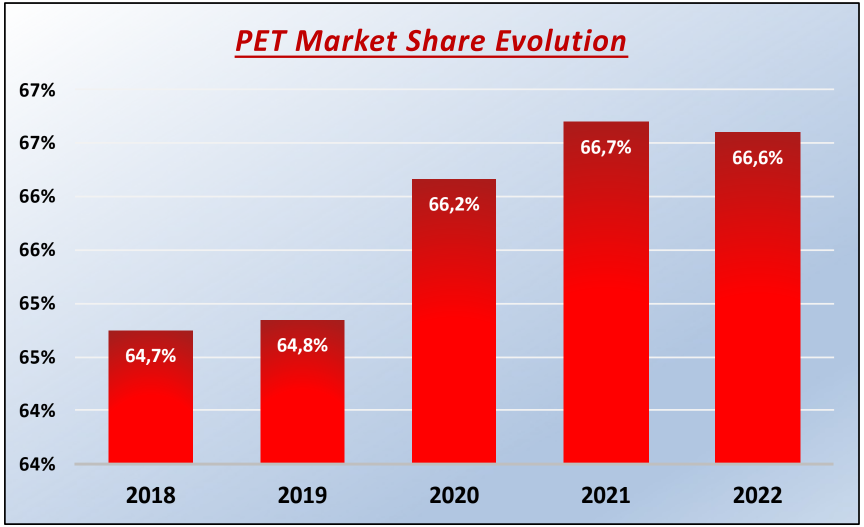
Growth will be further stimulated by the recovery in out-of-home consumption and tourism.
Inflationary pressures will compel low-income households to opt for affordable refreshments, especially in bulk packs.

Carbonates Performance – Top 10 Economies + EU

Countries	Liter per Capita (2022)	2021-2022 Growth %		2022-2023 (f) Growth %	
		Volume (liter)	Value ($)	Volume (liter)	Value ($)
United States of America	*120*	0.8%	5.6%	-1.3%	2.2%
China	*13*	2.8%	4.6%	4.7%	6.0%
Japan	*25*	2.2%	6.7%	2.1%	8.9%
Germany	*89*	-0.6%	5.5%	-0.4%	10.8%
India	*5*	27.3%	44.4%	13.0%	14.2%
United Kingdom	*39*	4.7%	23.2%	2.7%	13.2%
France	*37*	6.0%	12.3%	3.6%	6.8%
Italy	*34*	10.3%	20.8%	1.7%	5.9%
Brazil	*65*	7.7%	22.8%	2.2%	12.0%
Canada	*64*	0.1%	8.7%	0.3%	6.4%
European Members	*65*	4.0%	+14.0%	1.8%	8.8%

Worldwide Packaging Material Snapshot - Carbonates





- PET was the sector's most commonly used packaging material in 2022, with a volume share of 67%. It was followed by metal in a distant second, with a share of 17%.
- Glass packaging is a potential alternative to PET pack as it is recyclable, the heaviness of the material escalates the transportation costs.

Main Format - Packaged water & Carbonates
Top 10 Economies + UK

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Countries	Main format – Year 2022	
	Carbonates	Packaged water
United States of America	35.5 cl	50 cl
China	60 cl	55 cl
Japan	50 cl	200 cl
Germany	100 cl	150 cl
India	60 cl	25 cl
United Kingdom	33 cl	50 cl
France	33 cl	150 cl
Italy	150 cl	150 cl
Brazil	200 cl	50 cl
Canada	35.5 cl	50 cl
European Members	33.0 cl	150 cl

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PET Bottle Grade – Supply and Demand

- Worldwide and EU PET Packaging Resin situation.
- Future of the EU PET industry.

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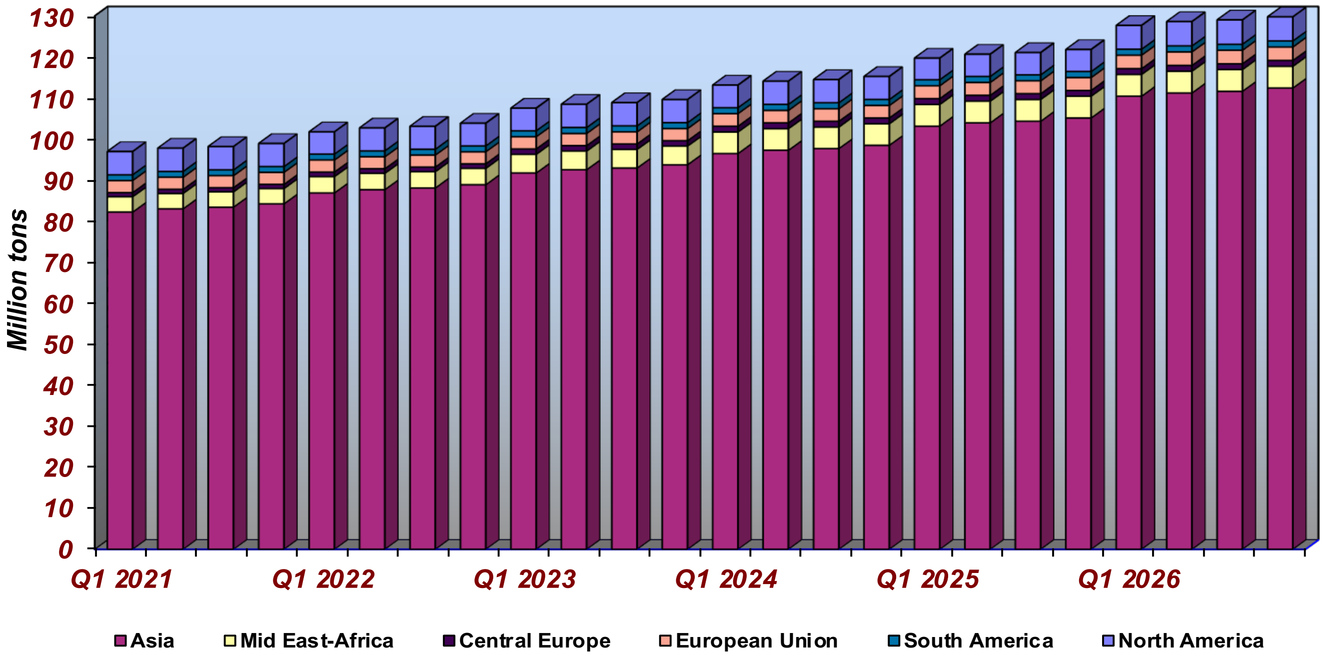
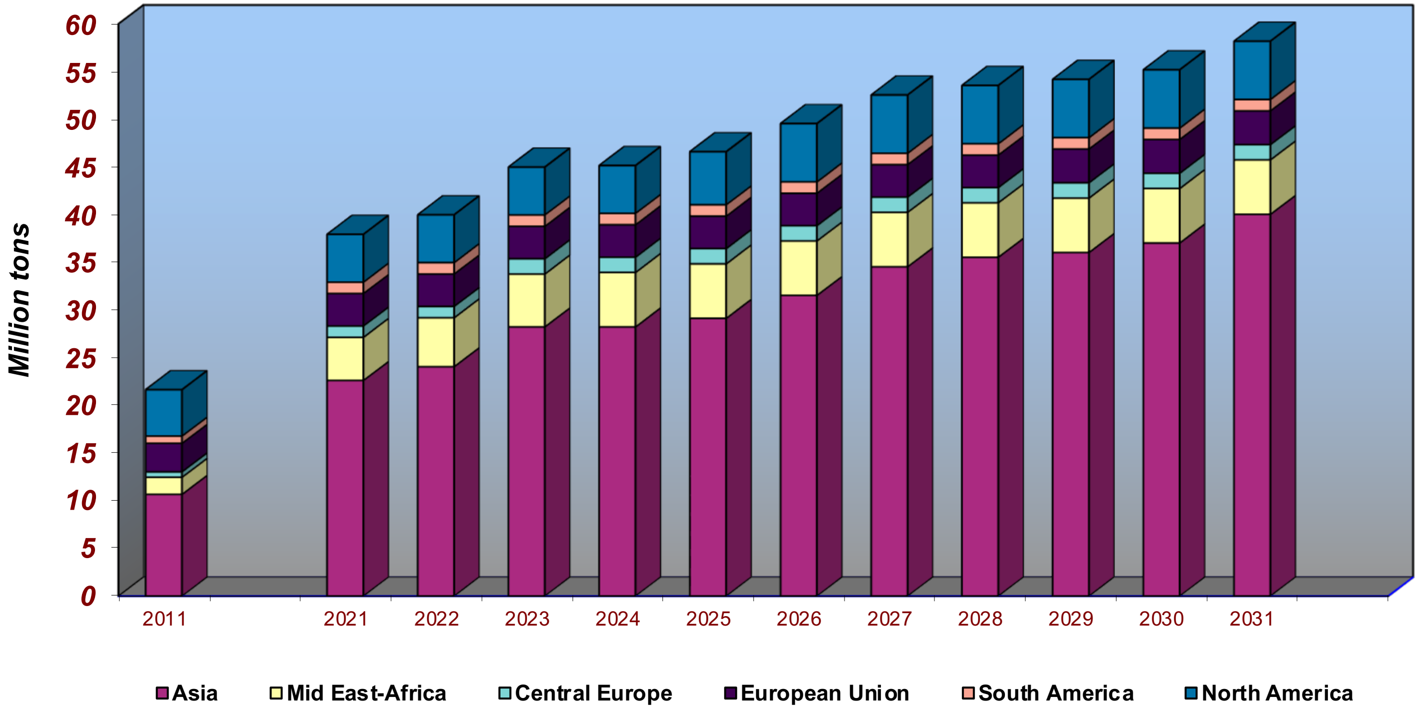
Polyester Polymer Capacity (2021-2026)



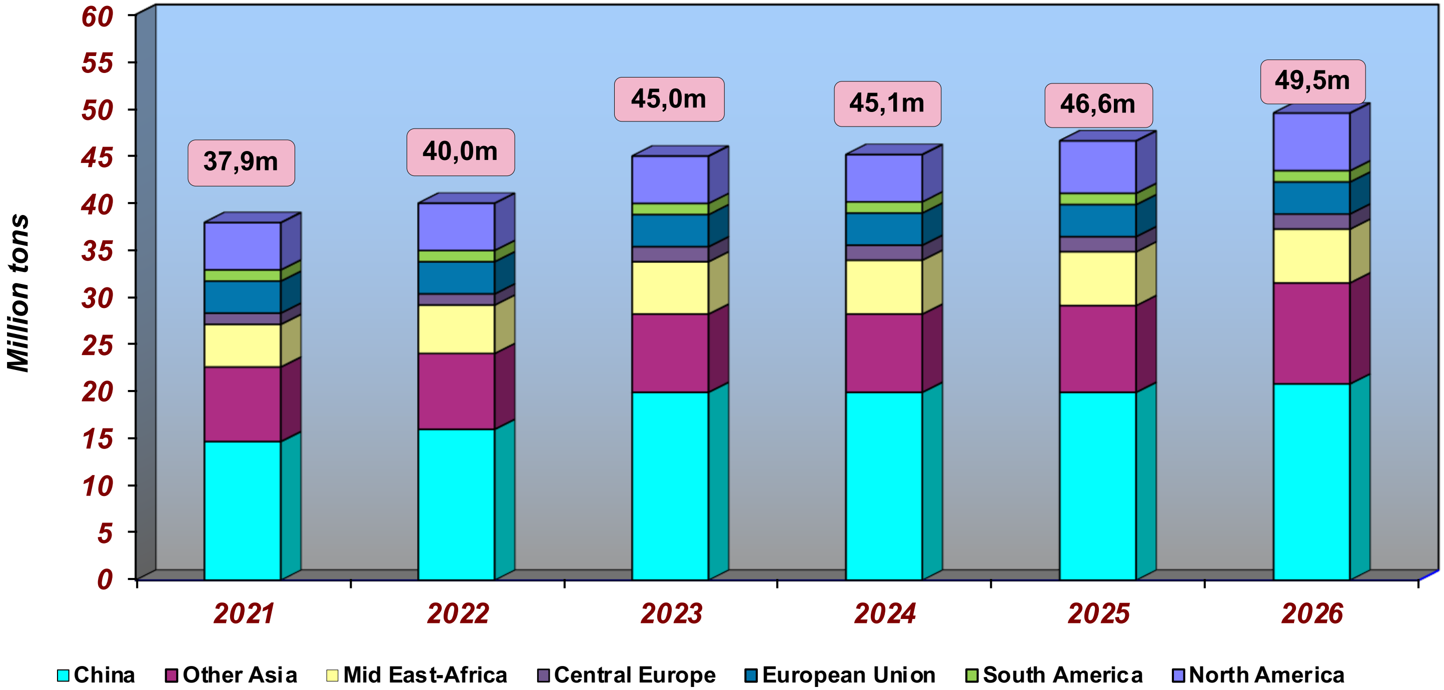
- *88% of the worlds polyester polymer capacity resides in Asia. China represents 69% of this capacity;*
- *Continued polyester fiber expansions in Asia and global additions PET capacity;*
- *Tremendous Growth in PTA capacity in Asia (China). 86% of worlds PTA capacity resides in Asia, 62% in China.*

PET Packaging Resin Capacity (2011-2031)



Asia (mainly China) will remain the largest PET producer and will continue to build massive capacity.

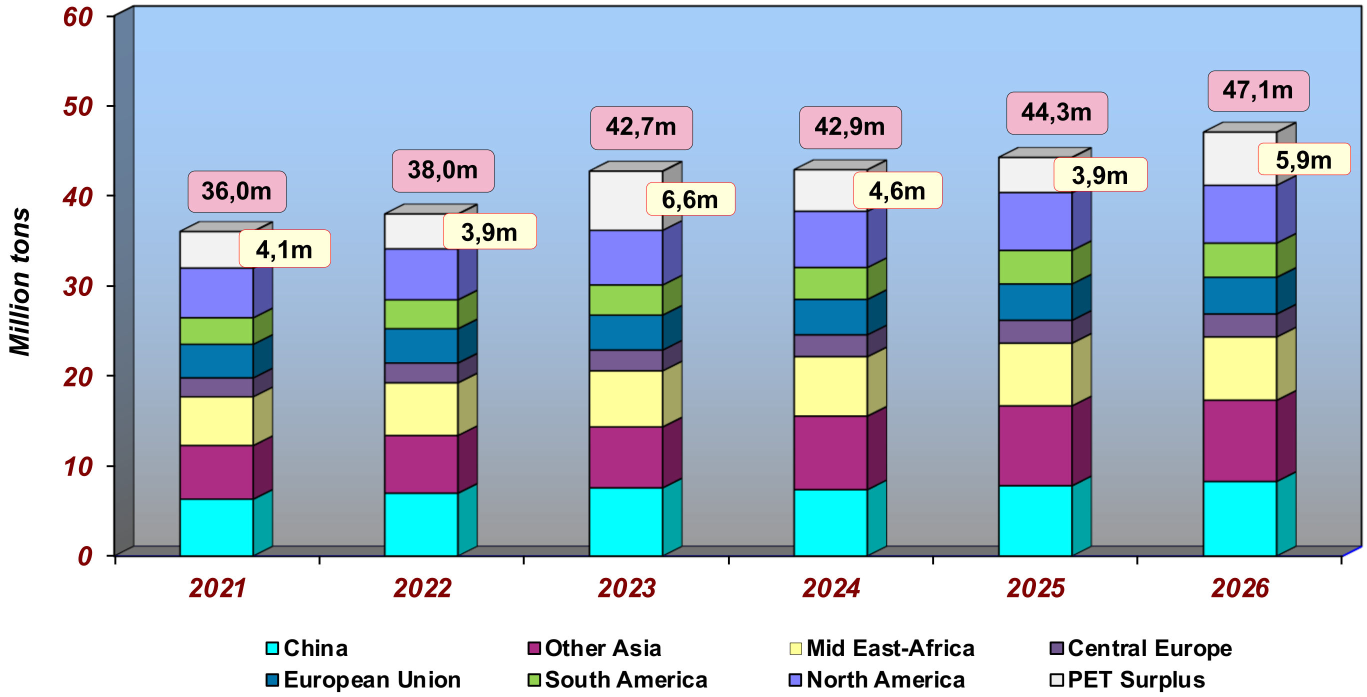
PET Packaging Resin Capacity (2021-2026)



Production change (from 2023 to 2026)	
Country	Change (KT/year)
China	4 800
India	1 650
USA	1 100
Brunei	1 000
Turkey	580
Russia	400

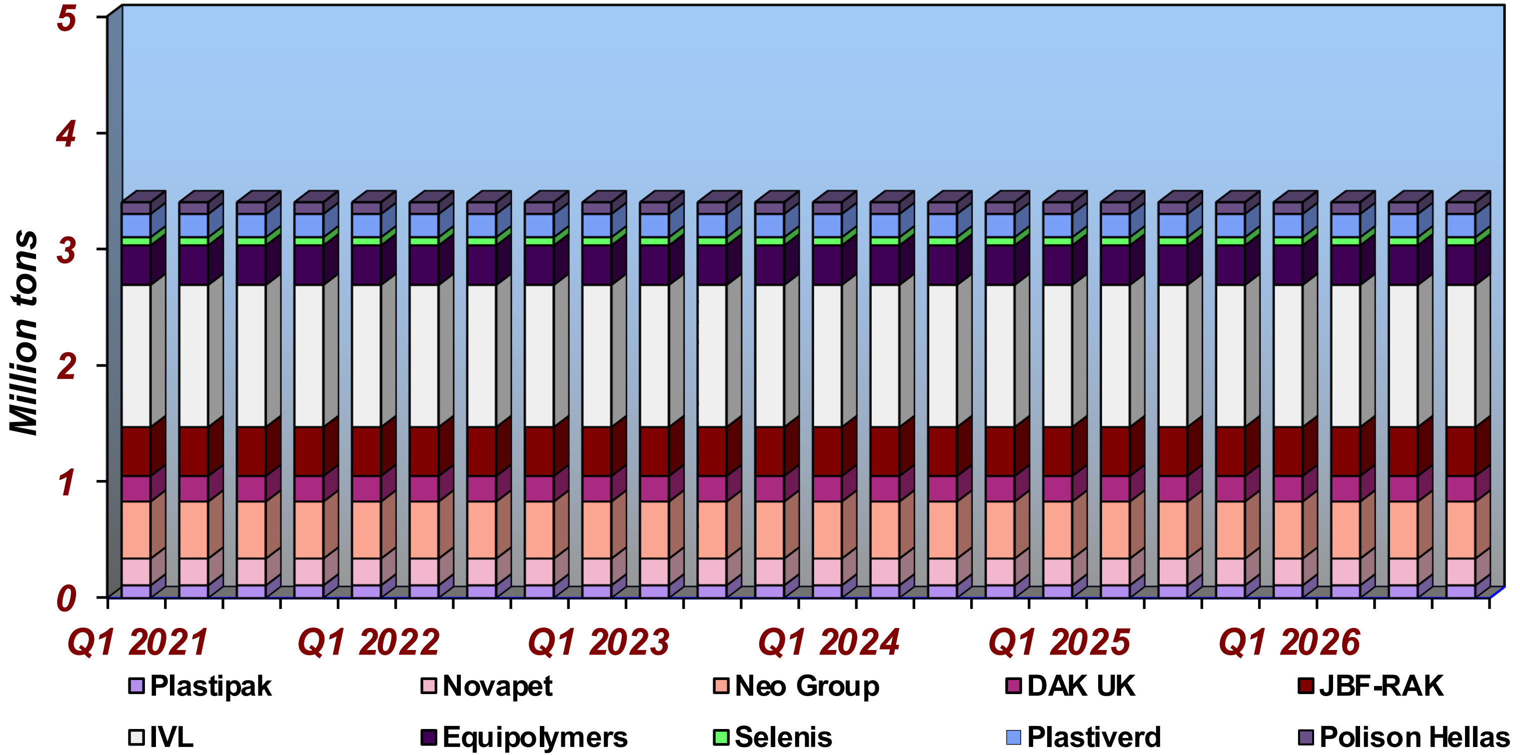
Global PET Capacity of 45 M tons, with 28.3 M tons in Asia (63%)

PET Packaging Resin Demand vs 95% of capacity (2021-2026)

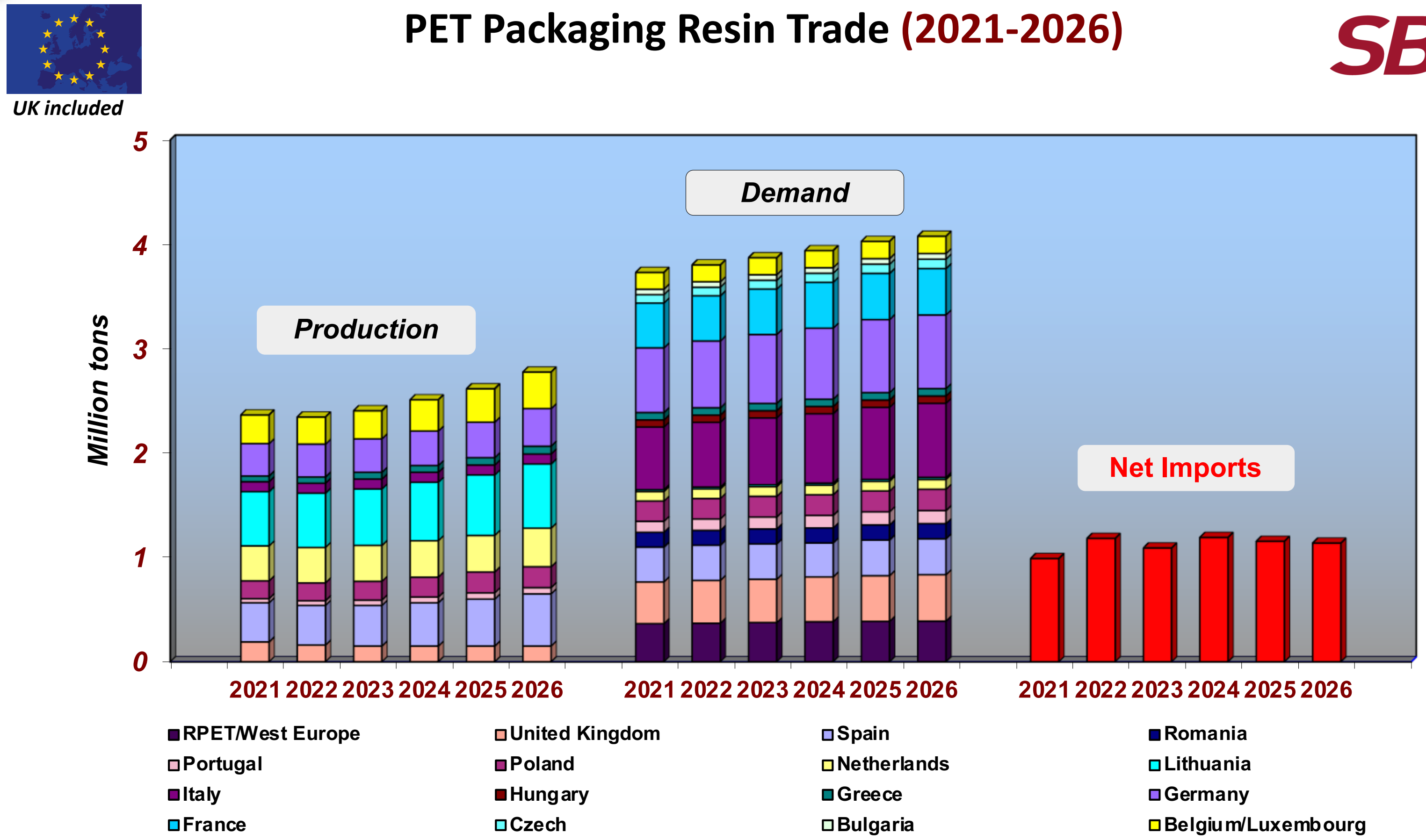


PET Packaging Resin Capacity (2021-2026)

UK included

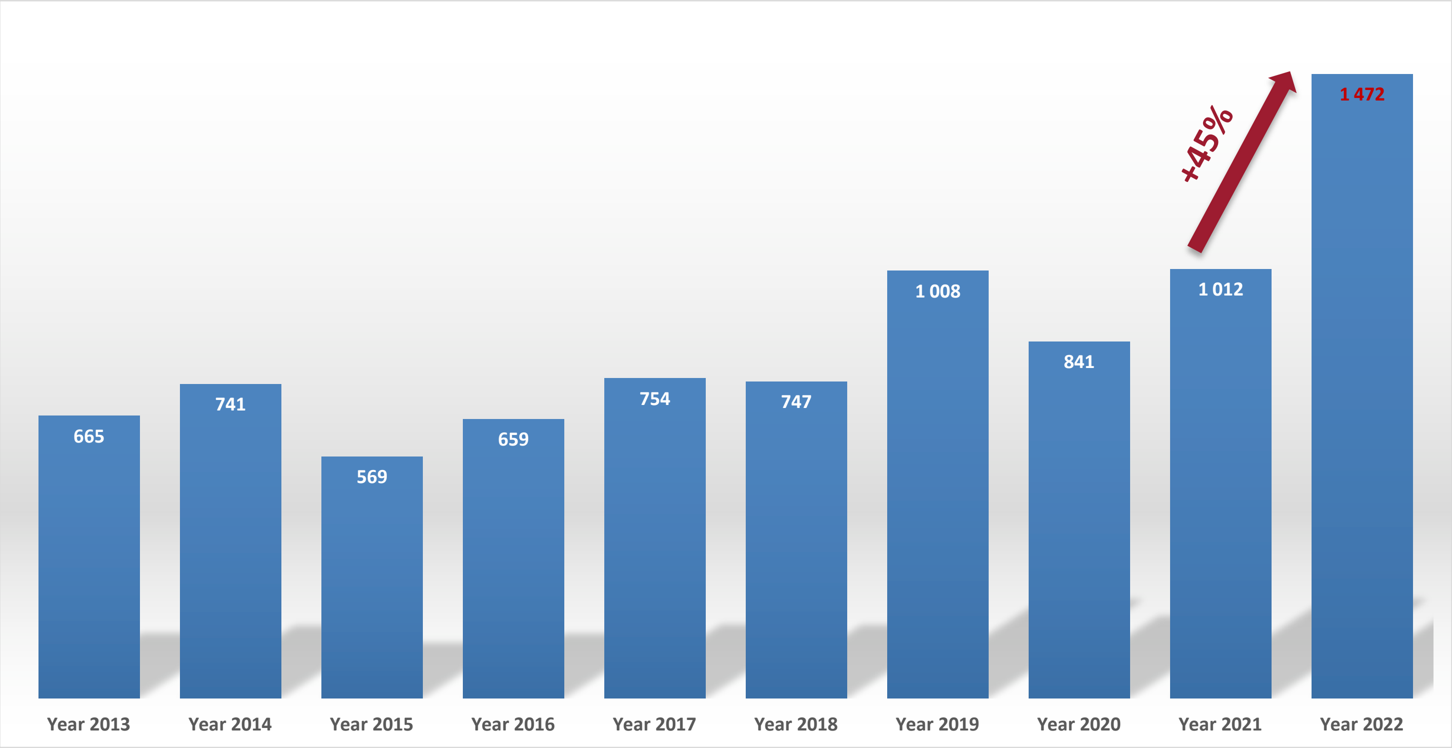


PET Packaging Resin Trade (2021-2026)



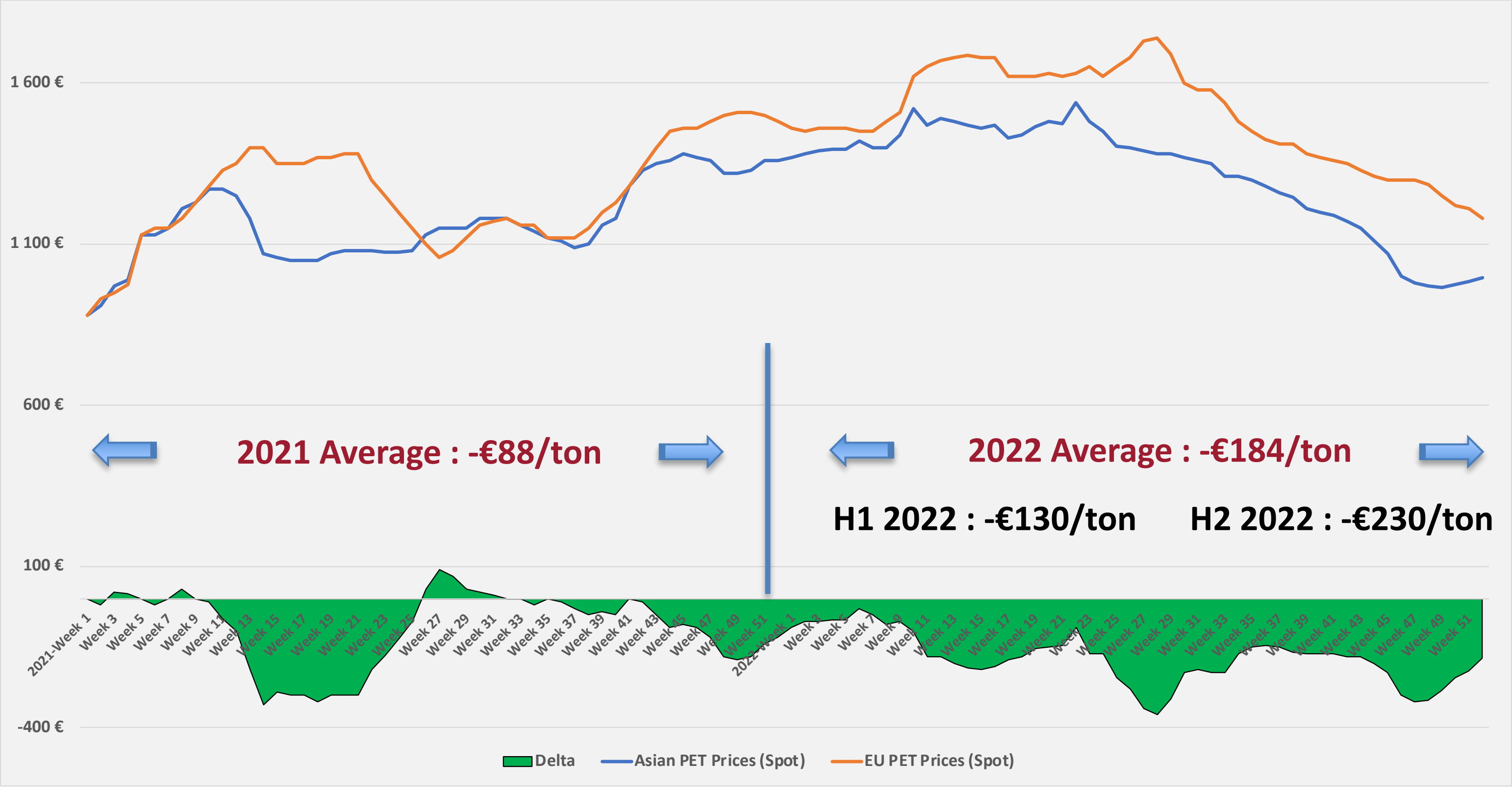
PET Bottle Grade (2013-2022)
10 Years History of imported material in EU (in KT)

UK included



UK included

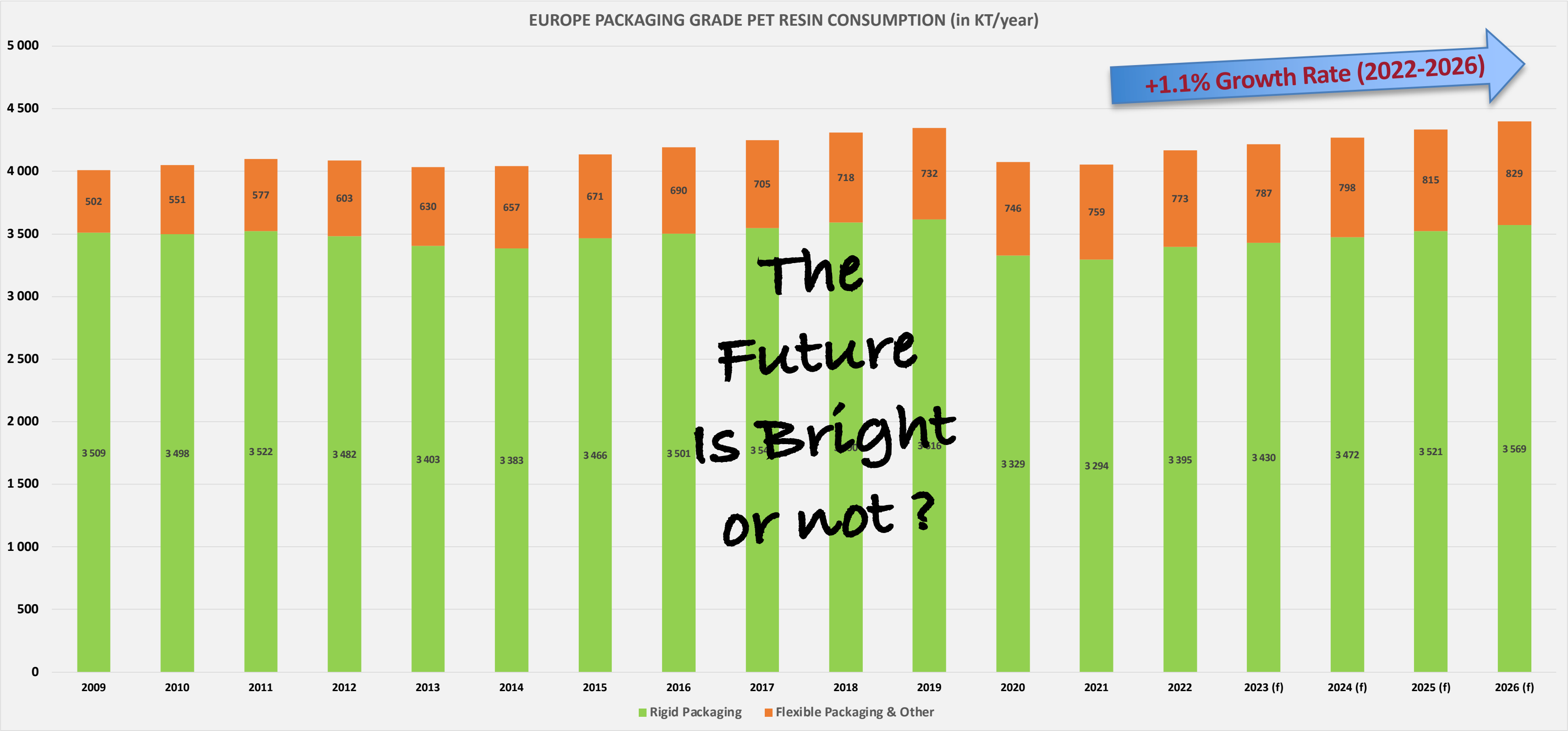
2021/2022 EU PET Prices vs Asian PET Prices (*)



(*): Delivered prices with an inland transport costs of € 50/MT

UK included

PET Packaging Grade Demand (2009-2026)



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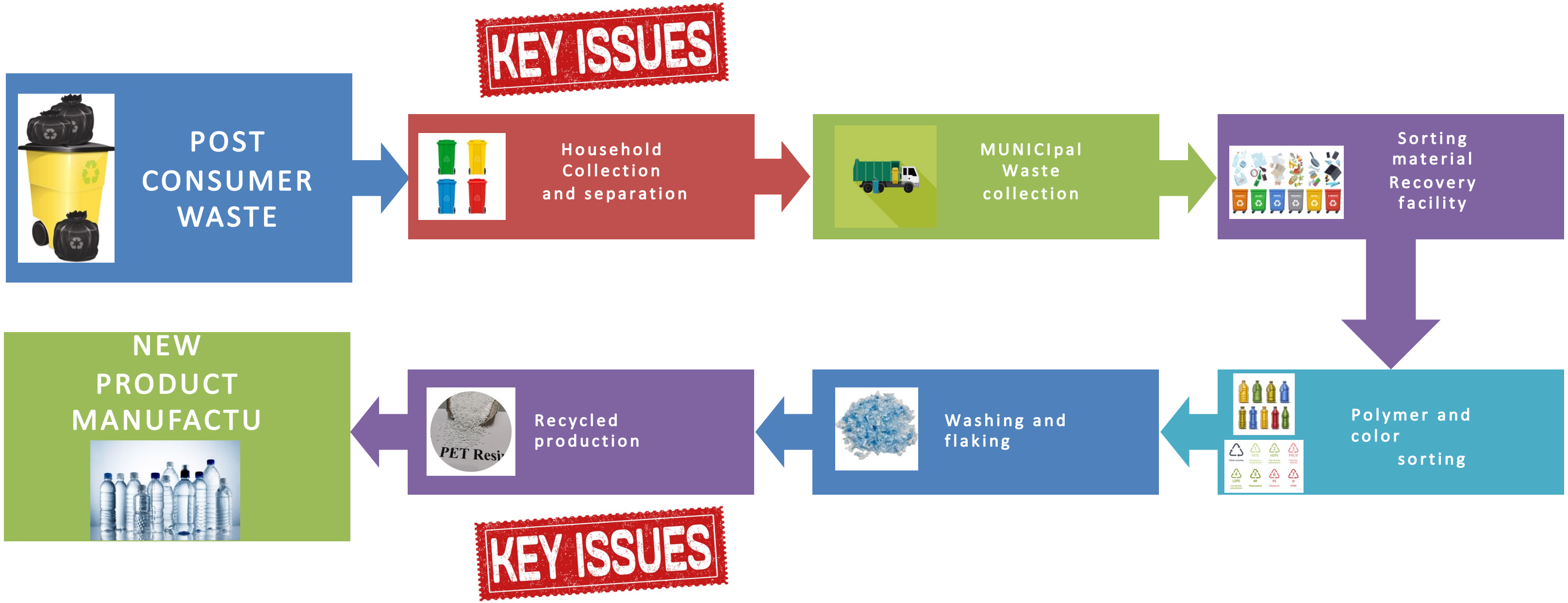
rPET status in Europe

- EU Packaging Waste regulations and key issues.
- Myths and realities.

Mechanical PET Recycling Stream Process



The EU'S single-use plastics directive +EU Packaging & Packaging Waste Regulation. Major steps for the plastic industry, brand owners …. and consumers.

2019

57% collection of PET bottles

10% recycled Pet content in food grade bottles

42% collection of plastic in Europe

2025

77% collection of beverage containers

25% recycled content in PET bottles

2029

90% collection of beverage containers.

DRS to implemented in all EU countries

2030

30% recycled content in all types of beverage bottles

10% of reusable packaging / refill for non-ahcoholic beverages

5% packaging waste reduction (per capita) vs 2018

2035

10% packaging waste reduction (per capita) vs 2018

2040

65% recycled content in all types of beverage bottles

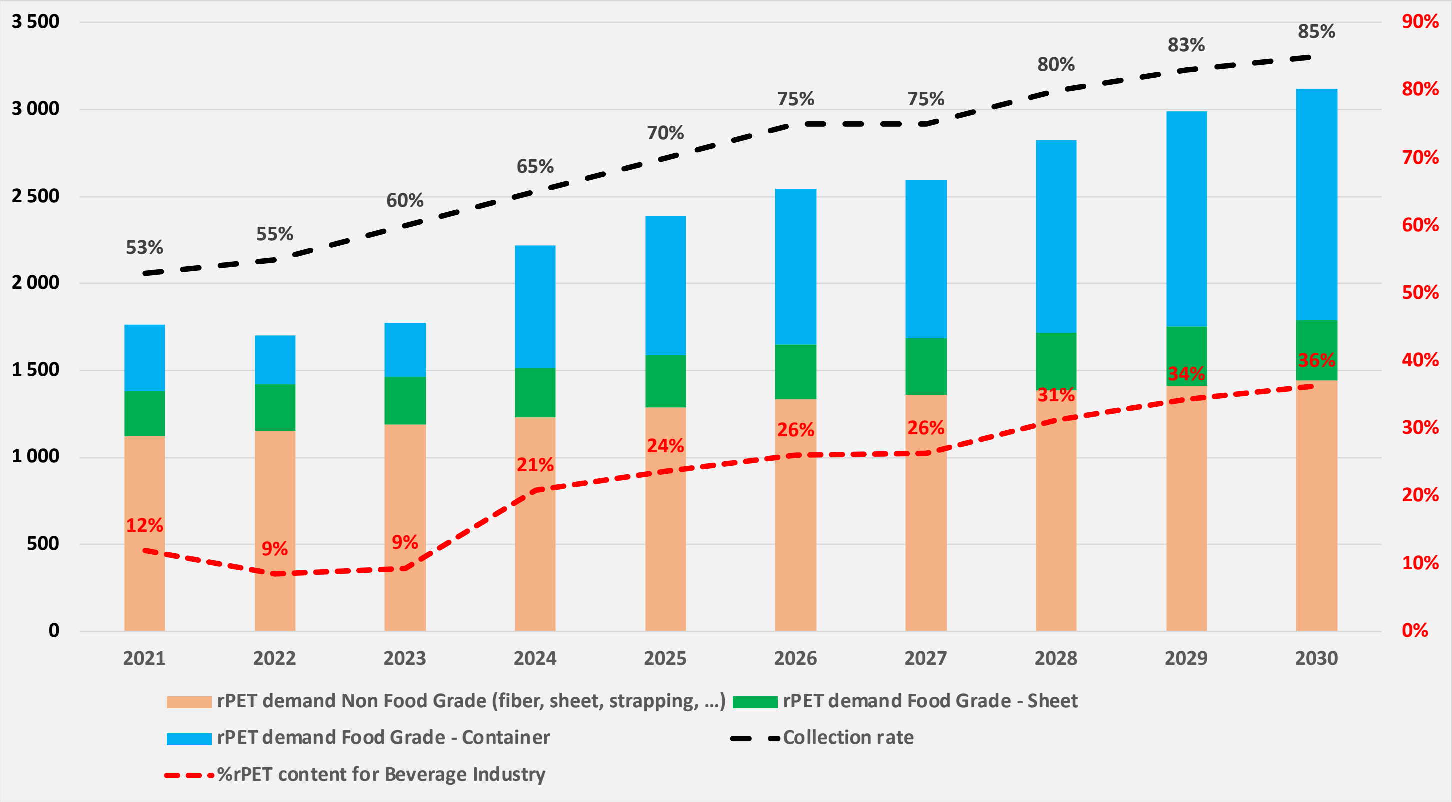
25% of reusable packaging / refill for non-ahcoholic beverages

15% packaging waste reduction (per capita) vs 2018

Key points :

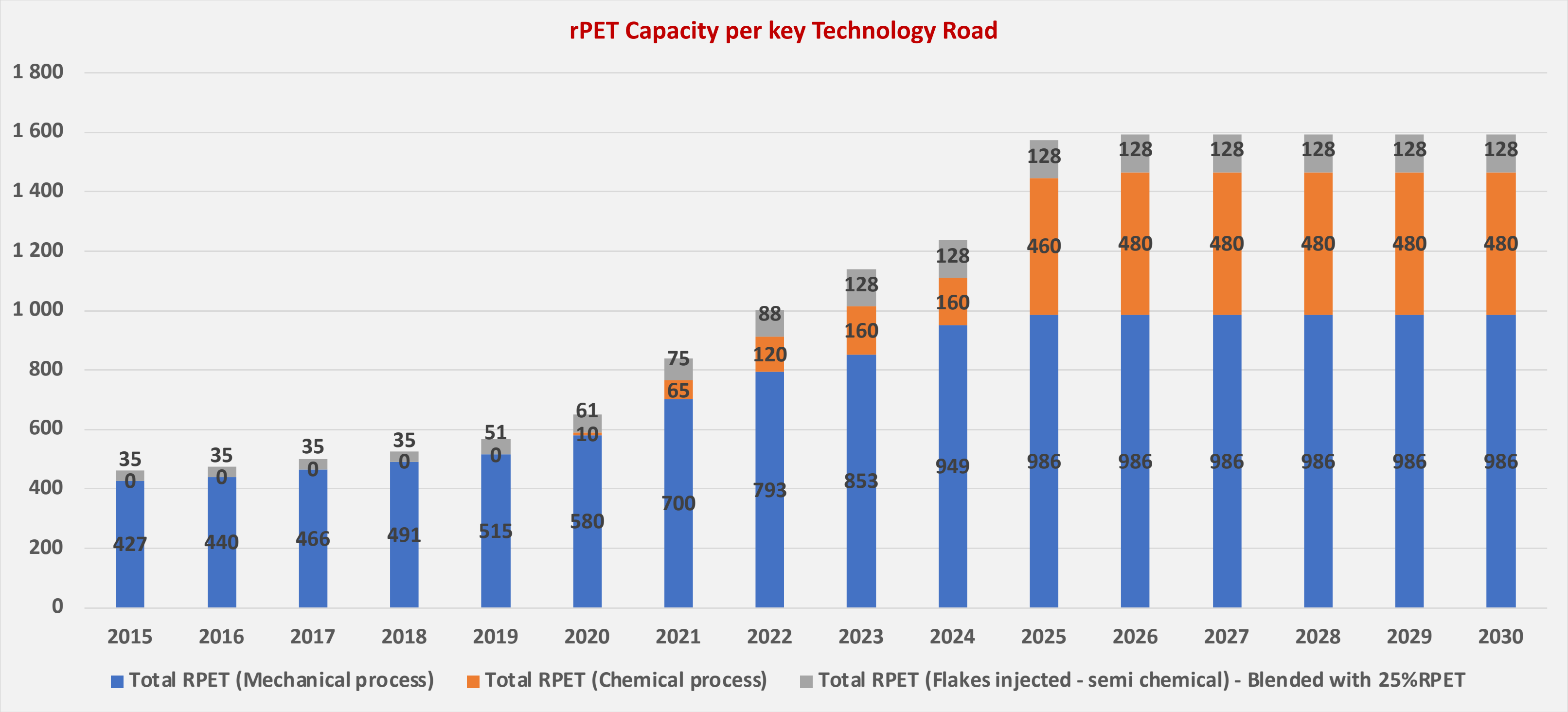
- The EU commission sets ambitious and tremendous recycling / reuse targets.
- To reach the 2029 target EU member states would need to collect at least twice PET beverage bottles.
- Moving to deposit refund schemes will clearly improve collection rate and quality.
- Investments are needed in collection infrastructure as well in the polymers process in order to meet the 90% collection rate target and the 65% recycled content.

Our Industry Impact Model



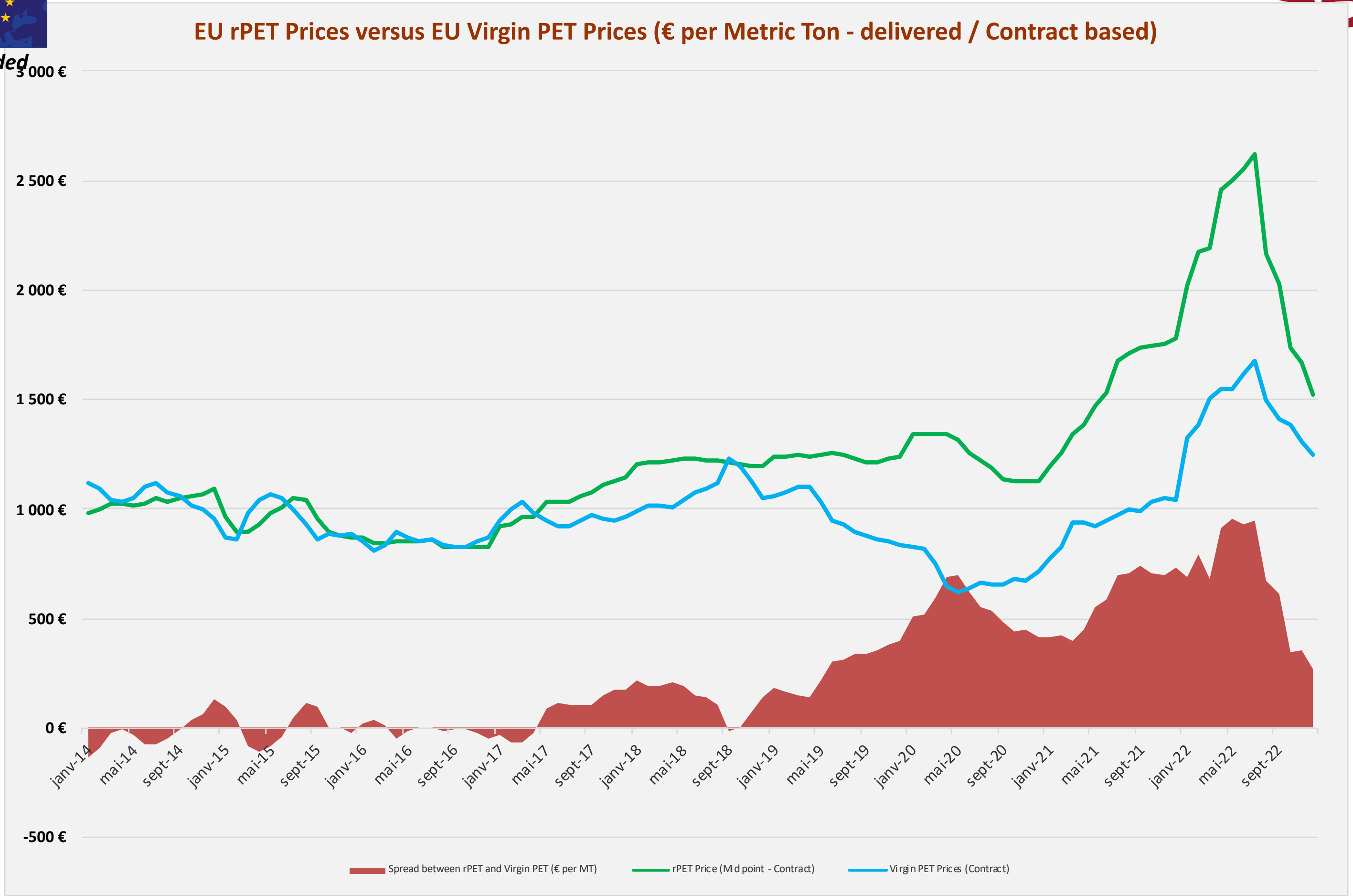
(*) Assumes 2% total annual demand growth for sheet and non-packaging applications + available feedstock (75% yield).

UK included



Emergence of rPET chemical technology but ….. these new capacities must be competitive.

UK included



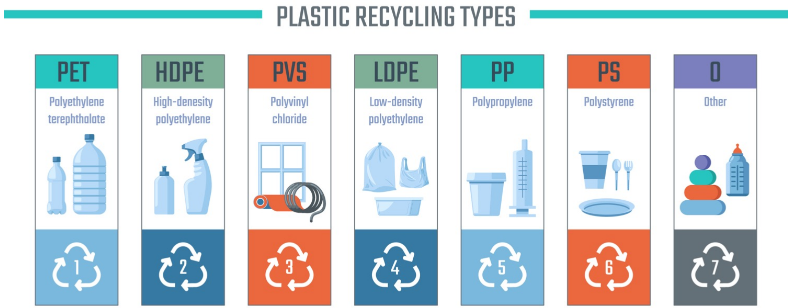
EU rPET Prices versus EU Virgin PET Prices (€ per Metric Ton - delivered / Contract based)
3 000 €
2 500 €
2 000 €
1 500 €
1 000 €
500 €
0 €
-500 €
janv-14
mai-14
sept-14
janv-15
mai-15
sept-15
janv-16
mai-16
sept-16
janv-17
mai-17
sept-17
janv-18
mai-18
sept-18
janv-19
mai-19
sept-19
janv-20
mai-20
sept-20
janv-21
mai-21
sept-21
janv-22
mai-22
sept-22
Spread between rPET and Virgin PET (€ per MT)
rPET Price (Mid point - Contract)
Virgin PET Prices (Contract)

- Beverages growth will slow in 2023 due to high inflation and the impact on the European economy of the Russia-Ukraine conflict. Food and energy prices will be particularly high.
- EU PET producers are having a difficult time competing with imports due to sharply higher energy and raw material prices versus Asia.
- Imports are forecast to play a major role in European supply for 2023 (PET, raws, flakes).
- EU needs to rationalize old and not competitive PET assets.
- Europe is far ahead vs the other regions for rPET usage for packaging but also in technology/expertize.

- EU commission sets ambitious targets but some needs to be reviewed.
- Focus is shifting to sustainability as major companies commit to use recycled materials and/or a more eco-friendly packaging.
- New PET investments are needed. EU market is short of supply either for rPET and virgin PET.
- DRS will further improve PET collection rates and quality.
- Improve the capture of PET waste, reduce contamination, improve PET yield …. in order to align rPET supply with the demand.

“ We don’t have a PET Packaging problem …

We have waste issue”



Thank You

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