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Argus Recycled Polymers

Market news, analysis and weekly prices

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EDITORIAL: A challenging market outlook should not reduce companies' appetite for investment

EU recyclers 'must stay optimistic'

EU recyclers must stay optimistic about the long-term future of the industry and be creative to prosper in the current challenging economic climate, Plastic Recyclers Europe (PRE) president Ton Emans told *Argus*.

The mood was subdued at this week's PRE members meeting in Portugal, with recyclers citing weak demand and low virgin polymer prices – compared with the two years after the Covid-19 pandemic – as particular challenges for the industry.

Emans agreed, but he said that the challenging market situation has had some positive impacts for the market, by obliging recyclers to become more efficient by optimising their processes and costs, as well as innovation of recycling technologies, and he believes that the industry remains optimistic about rising demand in the long term.

"2024 could be another difficult year, maybe the market will not really change", he said. But he believes that the recycling industry should hope for more help from within the plastics value chain and from regulators from 2025.

Many companies and the EU itself have set targets to use recyclates by 2025. The EU Circular Plastic Alliance set an industry target to incorporate 10mn t/yr of recyclates in new products in the EU by 2025. But PRE believes that this target, together with the target to recycle 50pc of plastic packaging laid out in the EU Packaging and Packaging Waste Directive (PPWD) will be challenging to achieve, taking into account current progress. It will require a collaboration across the industry as well as "a push towards more harmonisation and standardisation on the EU market and EU-wide legislative framework, which would create a level playing field", the association said.

The EU is also currently working on legislation that would mandate recycled content in packaging and automotive plastics, which most recyclers see as vital to safeguard their demand against economic and virgin polymer price cycles.

Regarding the current market situation, Emans said that recyclers should focus on quality, particularly through tighter controls on their feedstock and careful consideration of how to get the best out of their technology.

"Recyclers need to make sure that they can make a quality that can substitute virgin material, then that will stay [profitable]", he said, whereas companies manufacturing cheaper grades are likely to continue to struggle. Petrochemical investment in recycling has been a growing trend this year, with many large petrochemical companies looking to increase their positions in the industry and recyclers more likely to seek investment in view of the market situation. This is likely to continue, Emans said, which he sees as a positive for the industry as long as it is used as a tool for meaningful change.

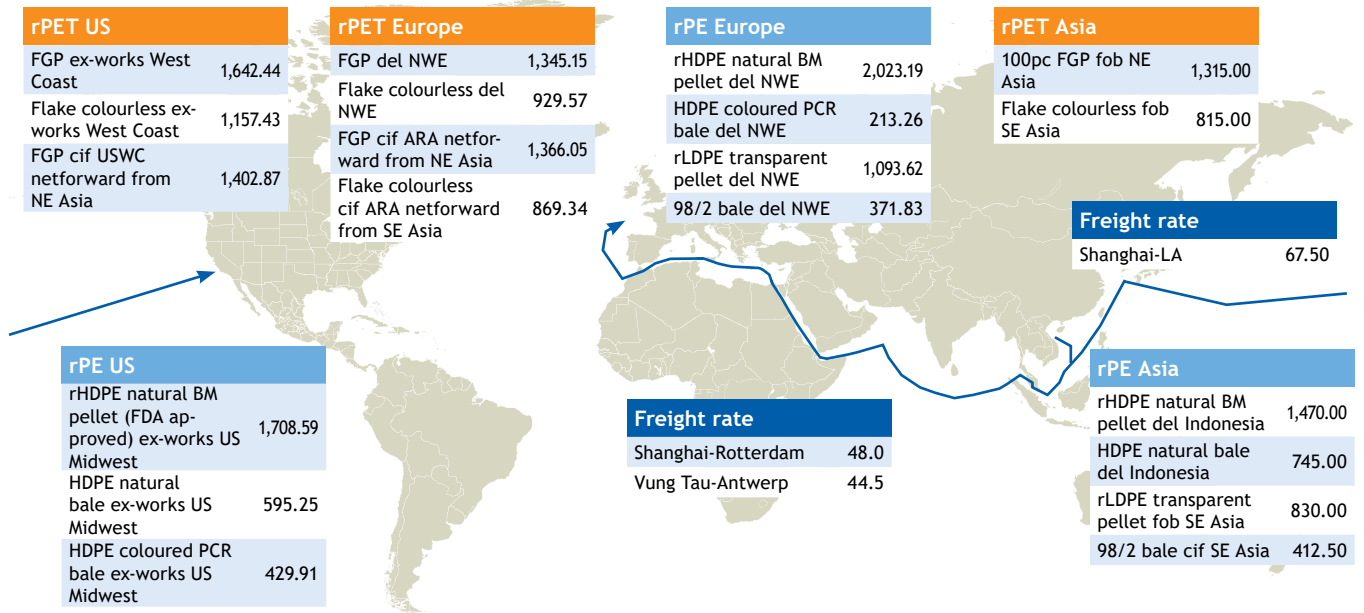
PRE presented data at the meeting showing that more than half of EU recyclers have capacities of less than 10,000 t/yr. Investment from large petrochemical firms could preserve the "entrepreneurial spirit" of the industry, while bringing investment and experience to help these smaller companies to scale up their operations.

CONTENTS

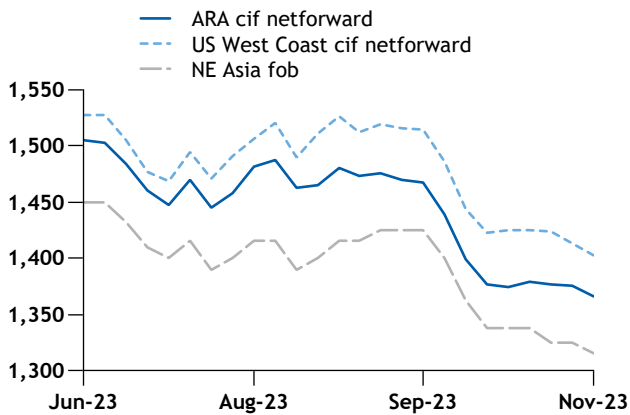
Recyclers "must stay optimistic"	1
Market commentaries	2-9
Analysis: China PET bales	10
Analysis: Cop28	11
News	13-17
Legislation/associations	13
Mechanical recycling	15
Chemical recycling	15
Companies	16
Fundamentals	17
Technology	17
News in brief	18

GLOBAL PRICES

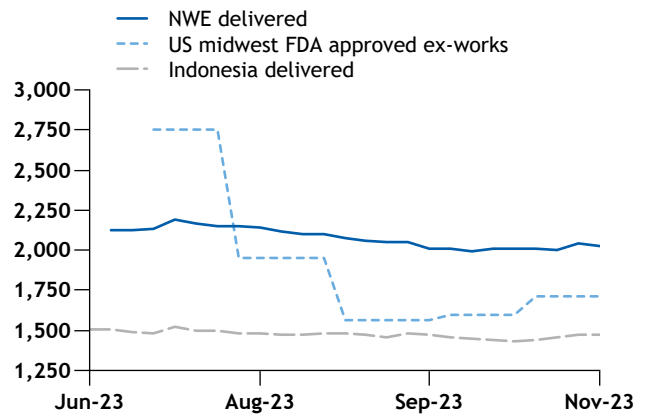
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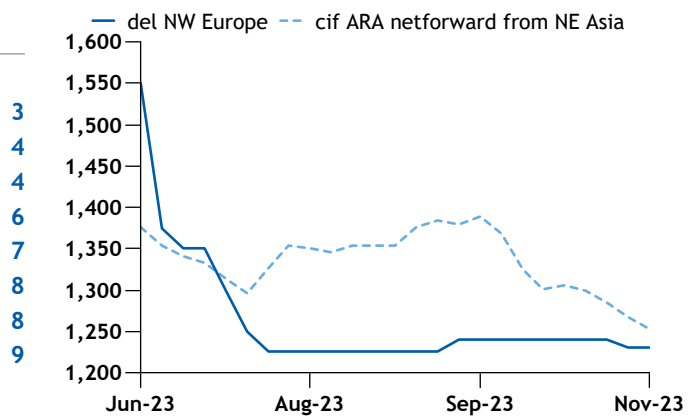
Global rPET FGP netforwards (basis NE Asia)



Global rHDPE natural prices



rPET food grade pellet Europe vs netforward



COMMENTARY HEADLINES

- rPET Europe: Prices roll over
- US rPET: A grade bales drop
- rPET Asia: Northeast market falls
- rPO Europe: Market winding down
- rPE, rPP: Virgin PE pressures market
- rPE SE Asia: Market stable
- ARA bionaphtha premium falls
- Petrochemical markets

MARKETS UPDATE – rPET – EUROPE

European rPET prices roll over

The European rPET market continues to be steady at the end of November and prices across the value chain are relatively stable.

Market sentiment is slightly tempered from the optimism of September and October as the market begins to gradually slow down ahead of the Christmas holiday period. Most recyclers and converters are likely to close in mid-December for the holiday, so December is a limited month for market activity. Most orders for the peak packaging period over Christmas have been completed and inventories are well stocked. Demand across the value chain remains robust currently, but is expected to slow before the end of the year. In particular demand for rPET colourless flake used in the sheet packaging sector is steady as sheet producers continue to use recycled flake as a lower-cost alternative to virgin PET resin.

European virgin PET resin prices continue to be above recycled flake, and the delta between virgin and food grade pellets has narrowed. VPET resin prices are at €1,070-1,150/t delivered. With the current delta between virgin and food grade pellets averaging €140/t, there are reports that some converters and brands are taking volumes to increase recycled content volumes while prices are advantageous. But food grade buyers continue to report that food grade demand is a little subdued as expected for the time of year.

There are reports that some bale sellers have attempted to push bale prices higher within the price range, and some offers as high as €350/t have been heard. However, inventories are reportedly high and there is plenty of availability on the market. Market participants across the value chain are trying to balance the books and manage inventory levels before the end of the year.

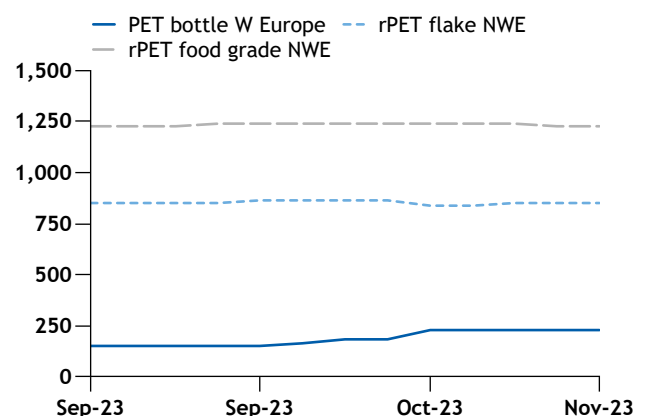
The UK rPET market remains challenging. PRN prices have stabilised at around £150-160/t. But UK recyclers suggest that the PRN needs to increase for the market to be profitable and in some cases survivable. Bale and flake prices rolled over and recyclers suggest that prices cannot fall lower as margins have already been squeezed, particularly as bale sellers attempt to push prices up.

UK and European recyclers believe that bale and flake prices have bottomed out and are anticipating increases next year. Contractual discussions across the value chain are being confirmed with many contracts already settled. There is a mix of approaches to strategies next year, and the outlook remains unclear. Some market participants have looked to secure contractual material in the anticipation that the market will tighten and prices will rise throughout the year

Recycled PET Europe market prices					€/t
	Timing	Low	High	Midpoint	Δ
Bale prices					
PET bottle colourless, del W Europe	24-Nov	150.00	300.00	225.00	nc
PET bottle colourless, del N Europe	24-Nov	150.00	300.00	225.00	nc
PET bottle colourless, del UK £/t	24-Nov	80.00	150.00	115.00	-10.00
PET bottle colourless, del CEE	24-Nov	200.00	350.00	275.00	+15.00
PET bottle colourless, yellow container, del Spain	4Q23	95.00	190.00	142.50	nc
PET bottle colourless, municipal collection, del Spain	4Q23	-200.00	97.00	-51.50	nc
Flake prices					
Bottle flake colourless, del NWE	24-Nov	800.00	900.00	850.00	nc
Bottle flake colourless, del S Europe	24-Nov	800.00	900.00	850.00	nc
Bottle flake colourless, del CEE	24-Nov	815.00	900.00	857.50	nc
Bottle flake colourless, del UK £/t	24-Nov	600.00	660.00	630.00	nc
Food grade pellet					
del NWE	24-Nov	1,180.00	1,280.00	1,230.00	nc
del S Europe	24-Nov	1,180.00	1,280.00	1,230.00	nc
del CEE	24-Nov	1,180.00	1,280.00	1,230.00	nc

as voluntary and legislative recycled content target deadlines approach. However, other market participants have suggested that contracts in previous years have not proved to be beneficial when the market has not been as strong as expected and this is making some participants cautious. There is some hesitancy around if and when demand will increase in 2024. There are reports that some participants are looking to contract minimum volumes and will rely more heavily on the spot market as some think that the market will not recover as strongly as expected. And both the virgin market and imports will also be important factors.

rPET supply chain W Europe €/t



MARKETS UPDATE – rPET – AMERICAS

US rPET: A grade bales drop

US west coast rPET pellet prices are likely to follow a flat-to-downward trajectory in December, according to market participants, guided by poor demand and price pressure from imported rPET.

Asian rPET imports to the US have greatly increased this year amid weak global demand for recycled polymers, some importers said. Prices for imported rPET pellets have typically tracked below the price of domestically-produced rPET pellets, giving domestic producers little space to move prices up without losing market share.

Some buyers noted that there has been some tightening of rPET availability since summer, not enough to impact their supply, but enough to push bale prices upwards as collection volumes dropped in autumn. Some reprocessors expressed frustration with the situation, as margins have gradually shrunk for the market segment owing to feedstock price increases on the flake and bale side of rPET.

And, although virgin PET prices have seen upward movement recently, that momentum could be halted by falling seasonal demand for bottles. Higher virgin PET prices are typically considered to make it easier for recyclers to raise prices for their products.

Amid slow demand, west coast A grade bales dipped by 1¢/lb last week to 18¢/lb, but were stable this week. The B grade bale price was not affected. We published prices on Wednesday this week, because of the Thanksgiving holiday on Thursday and Friday.

Recycled PET US weekly market prices						ex-works
	Timing	Currency	Low	High	Midpoint	Δ
Weekly						
PET bottle bale						
A grade US west coast	22-Nov	€/lb	17.00	19.00	18.00	nc
		\$/t	374.79	418.88	396.84	nc
PET bottle bale						
B grade US west coast	22-Nov	€/lb	9.00	12.00	10.50	nc
		\$/t	198.42	264.55	231.49	nc
PET bottle bale						
US east coast	22-Nov	€/lb	12.00	14.00	13.00	nc
		\$/t	264.55	308.65	286.60	nc

Recycled PET US monthly market prices						ex-works
	Timing	Currency	Low	High	Midpoint	Δ
Monthly						
rPET flake						
colourless US west coast	Nov 23	€/lb	50.00	55.00	52.50	+0.50
		\$/t	1,102.31	1,212.54	1,157.43	+11.02
rPET pellet US						
west coast	Nov 23	€/lb	73.00	76.00	74.50	+2.00
		\$/t	1,609.37	1,675.51	1,642.44	+44.08

Announcement

The holiday calendar showing which Argus reports are not published on which days is now available online <http://www.argusmedia.com/Methodology-and-Reference/Publishing-Schedule>

MARKETS UPDATE – rPET – ASIA-PACIFIC

rPET Asia: Northeast market falls

Northeast Asian rPET prices inched down this week, on the back of lower virgin PET prices, whereas the southeast Asian market was quiet and stable.

Chinese producers offered 100pc recycled rPET pellet exports at \$1,300-1,350/t fob and concluded some small-sized deals at \$1,250-1,320/t fob during the week. A few buyers made purchases for cosmetics packaging, although beverage companies were absent from the market owing to slow seasonal demand. Trade in the Chinese domestic market was also limited. Offers to sell December shipments held steady at 10,900-11,000 yuan/t, equivalent to \$1,345-1,355/t and small-sized deals were done at Yn10,500-10,700/t, equivalent to \$1,295-1,320/t.

Taiwanese manufacturers offered 100pc rPET pellet exports at \$1,350-1,400/t fob this week, with small-sized deals done at \$1,330-1,380/t fob but volumes were limited.

Selling indications for 25pc rPET pellet were unchanged at \$980/t fob, which met notional buying ideas at \$950/t. But no deals were done.

PET flake trading activities slowed this week. Softer virgin PET resin prices dragged down offers for premium grade flake to Yn6,950-7,000/t. Buyers also turned cautious as some consumers mentioned their sales slowed recently because of softer energy and virgin PET prices. Deal prices of PET flakes fell marginally to Yn6,850/t from Yn6,950/t during the week.

Meanwhile, in southeast Asia, a limited number of deals were concluded. Demand typically slows towards the end of

MARKETS UPDATE – rPET – ASIA-PACIFIC

the year, market participants said, and recent price rises for colourless and mixed-colour flakes have now petered out.

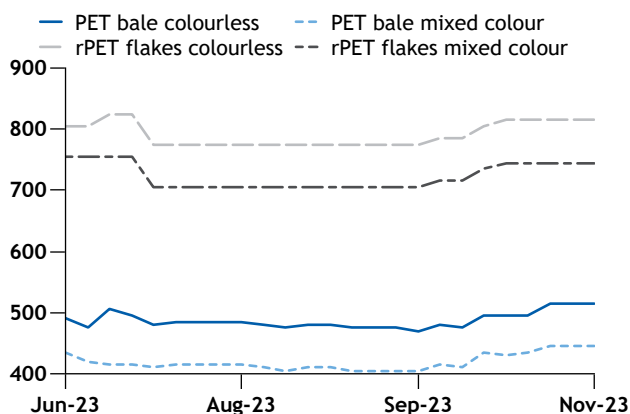
In spite of slower demand, recyclers were reluctant to reduce their offers, particularly with an upward trend in bottle bale prices in the past few weeks squeezing recycling margins. Collection rates were persistently low, particularly as a result of heavy rain in Thailand, and the local harvest season that leads some waste collectors to seek alternative employment in the agricultural sector.

Bale prices in Thailand increased to 17.50 baht/kg from Bt17/kg two weeks ago. A major Thai recycler said it was considering raising offers in the wake of higher bale prices, although it is not clear whether higher prices would be accepted in export markets such as Europe and the US.

Indonesian bale prices have risen steadily in the past few months, and maintained their higher level this week with colourless bales at 7,900-8,100 rupiah/kg and mixed colour bales at Rp6,700-7200/kg.

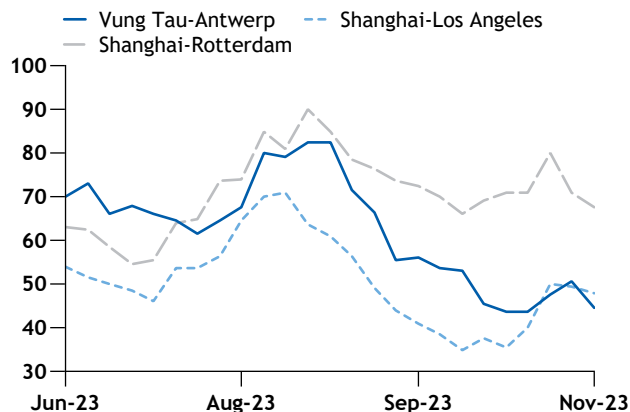
PET bale and rPET flake prices Indonesia

€/lb



Container freight rates

\$/t



Recycled PET Asia-Pacific market prices						
	Timing	Currency	Low	High	Midpoint	Δ
North East Asia rPET						
rPET food grade pellets 25pc fob NE Asia	24-Nov	\$/t	950.00	980.00	965.00	-5.00
rPET food grade pellets 100pc fob NE Asia	24-Nov	\$/t	1,250.00	1,380.00	1,315.00	-10.00
rPET flakes domestic China	24-Nov	Yuan/t	6,850.00	6,950.00	6,900.00	-50.00
South East Asia rPET						
PET bottle bale colourless domestic Indonesia	24-Nov	IDR/kg	7,900.00	8,100.00	8,000.00	nc
		\$/t	510.00	520.00	515.00	nc
PET bottle bale mixed colour domestic Indonesia	24-Nov	IDR/kg	6,700.00	7,200.00	6,950.00	nc
		\$/t	430.00	460.00	445.00	nc
rPET food grade flakes colourless fob southeast Asia	24-Nov	\$/t	790.00	840.00	815.00	nc
rPET food grade flakes mixed colour fob southeast Asia	24-Nov	\$/t	720.00	770.00	745.00	nc

Calculated rPET netforwards					
	Timing	Low	High	Midpoint	Δ
rPET food grade pellet cif USWC - netforward from NE Asia	24-Nov	1,329.20	1,476.53	1,402.87	-10.00
rPET food grade pellet cif ARA - netforward from NE Asia	24-Nov	1,291.25	1,440.84	1,366.05	-10.00
€/t	24-Nov	1,184.08	1,321.25	1,252.67	-14.12
rPET flake cif ARA - netforward from SE Asia	24-Nov	838.42	900.26	869.34	nc
€/t	24-Nov	768.83	825.54	797.19	-3.13

Container freight rates				
Route	Low	High	Midpoint	Source
Shanghai-Los Angeles	61.00	74.00	67.50	Freightos
Shanghai-Rotterdam	39	57	48.0	Freightos
Vung Tau-Antwerp	33	56	44.5	Freightos

*Freight rates used in net forward calculations are adjusted for the specified shipment size per FEU



Argus freight rates are as of the day of publication. Rates derived from Freightos data are of the previous day. Selected polymer spot freight rates are calculated by Argus methodology, based on underlying data from the online freight marketplace, Freightos. Visit www.freightos.com for complete lists of \$/FEU rates in the wider spot container market.

MARKETS UPDATE – RPE/RPP – EUROPE

rPO Europe: Market winding down

Demand in the European rPE and rPP markets has, outside a few specific sectors, wound down gradually throughout November as falling virgin polymers prices and upcoming year-end stock targets worsen buying sentiment.

Many converters and recyclers will have down time around Christmas, and some are likely to extend their stoppages with little confidence that demand will pick up again quickly at the start of 2024 to allow them to sell off any stock they build over the holiday period. The worst of inflation seems to have passed in Europe, and consumer-facing brands are signalling a gradual return to volume growth, but cost-saving measures that can constrain projects to use more recyclates in packaging remain in place. And interest rates are persistently high, which recyclers will be concerned could continue to stifle financing for large-scale projects, such as in the important construction industry.

On top of this, virgin PE and PP prices are falling. Spot prices for virgin PE and PP have fallen by more than €100/t since late October, because of slow demand, anticipated import pressure, and sellers' reticence to carry stock to year-end. And contract prices are largely declining in line with feedstocks ethylene and propylene, which may fall again next month with November's average cif ARA naphtha price – which has been a reliable indicator in recent months – currently €29.92/t lower than October. This decrease makes it harder for recyclates to compete as a cost-effective alternative to virgin material in certain applications, and there is an intangible impact on buying sentiment with converters less likely to purchase material urgently in a falling market.

In the flexibles market, demand for dark rLDPE/LLDPE film pellets from the garbage bag and agricultural film markets has been solid in November, with prices holding steady at €650-750/t delivered NW Europe. But transparent rLDPE/LLDPE pellet prices are falling slightly in negotiations for December, and transparent bale prices have declined by €10-20/t in the past two weeks.

In the rigids market, demand has cooled since September-October, and stocks of regrind and pellet remain high. Prices in the packaging market have come under some pressure during the autumn, with buyers likely to try to leverage 2024 offtake agreements in discussions. Most recyclers in the sector do not expect volumes to be lower than this year in 2024, but they stop short of forecasting any large increases in demand, at least in the early part of the year. We have moved the top end of our ranges for rHDPE and rPP down by €25-50/t.

The northwest Europe PP bale price rose slightly during

Europe recycled polyolefins					
	Timing	Low	High	Midpoint	Δ
Bales del NWE (€/t)					
HDPE rigid bale (D329 or equivalent)	24-Nov	120.00	270.00	195.00	nc
PP rigid bale PCR (D324 or equivalent)	24-Nov	70.00	170.00	120.00	nc
Mixed polyolefin bale, PCR	24-Nov	20.00	120.00	70.00	nc
Shrink hood flexible PE bale	24-Nov	500.00	600.00	550.00	nc
98/2 flexible PE bale post-commercial	24-Nov	320.00	360.00	340.00	nc
80/20 flexible PE bale post-commercial	24-Nov	190.00	200.00	195.00	nc
Mixed colour flexible PE bale post-commercial	24-Nov	140.00	160.00	150.00	nc
Mixed plastic waste (D350 fraction) del German incinerator*	3-Nov	-100.00	-90.00	-95.00	nc
Bales del UK (£/t)					
HDPE natural PCR bale	24-Nov	670.00	775.00	722.50	nc
HDPE coloured PCR bale	24-Nov	300.00	400.00	350.00	nc
PP PCR bale	24-Nov	350.00	430.00	390.00	nc
98/2 flexible PE bale post-commercial	24-Nov	380.00	440.00	410.00	nc
Regranulate prices del NWE (€/t)					
rHDPE BM white, from PCR, deodorised	24-Nov	1,550.00	1,800.00	1,675.00	-25.00
rHDPE BM natural from PCR deodorised del NWE	24-Nov	1,700.00	2,000.00	1,850.00	-25.00
rHDPE IM black	24-Nov	650.00	825.00	737.50	-12.50
rHDPE pipe dark/black	24-Nov	700.00	875.00	787.50	-12.50
rPP light, packaging, deodorised	24-Nov	1,600.00	1,850.00	1,725.00	-25.00
rPP grey, high MFI, plant pot and bucket	24-Nov	700.00	875.00	787.50	-12.50
rPP IM black	24-Nov	625.00	800.00	712.50	-12.50
rLDPE/LLDPE IM dark/black	24-Nov	400.00	600.00	500.00	nc
rLDPE/LLDPE shrink film transparent	24-Nov	1,090.00	1,215.00	1,152.50	-10.00
rLDPE/LLDPE stretch film transparent	24-Nov	1,115.00	1,185.00	1,150.00	-10.00
rLDPE/LLDPE standard film transparent	24-Nov	960.00	1,040.00	1,000.00	-10.00
rLDPE/LLDPE standard film dark/black	24-Nov	650.00	750.00	700.00	nc

*Prices are negative when payment is made to the

November, recovering from a nadir at the end of the summer in which prices below €0/t on an ex-works basis were reported. Collection volumes have been lower in recent months, and slightly stronger demand in September and October seems to have cleared some of the overhang of stock in the market. But, without an increase in rPP regrind and pellet prices, it is doubtful how much longer the upward trend can continue. Northwest Europe HDPE bale prices were stable at a slightly higher level in the past two weeks.

MARKETS UPDATE – RPE/RPP – AMERICAS

rPE, rPP: Virgin PE pressures market

PE and PP bales entered another flat week as lower demand and ample supply quashed sellers’ efforts to raise prices.

Natural HDPE bales were unchanged last week at 27¢/lb, still significantly down from its peak of 80¢/lb in June. HDPE colour bales rose slightly to 19.5¢/lb, while PP bales were flat at 7¢/lb this week.

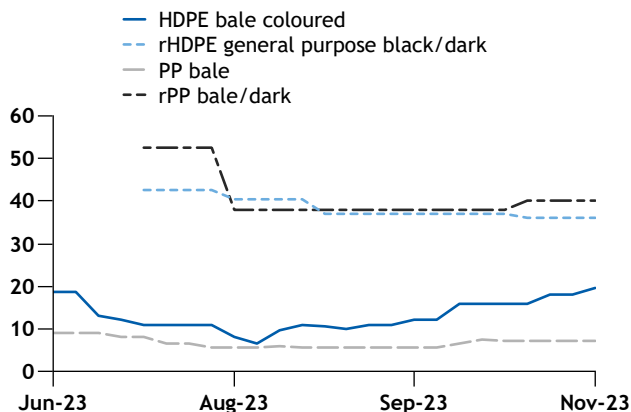
PE recyclers have had an especially difficult time this year, as the market has been greatly hindered by oversupply reducing prices in the virgin PE market. The average fas Houston spot price for HDPE so far in 2023 is 14.2pc lower than in 2022 and 43.3pc below the average of 2021 in the immediate aftermath of the Covid-19 pandemic. Lower virgin polymer prices have made it difficult for buyers to justify spending more on recycled material.

rPP has been largely flat for months, but recent price increases for virgin PP could mean that there is space for price increases in the near future, particularly at the low end of the market. US virgin PP has increased in price by 10¢/lb since August, and one buyer of rPP noted that wide-specification PP prices have also risen, leading them to purchase more recycled material.

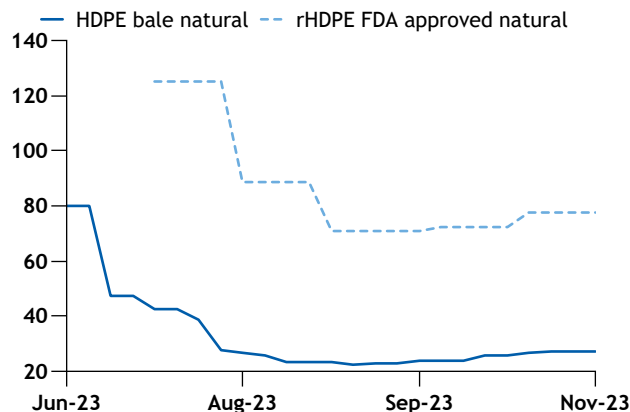
Higher packaging grades of rPE and rPP are experiencing a small amount of pressure from Asian imports, in particular for FDA-approved material, but imports have so far had a limited effect on pricing, compared with the rPET market.

Recycled polyolefins US Midwest weekly market prices						
	Timing	Currency	Low	High	Midpoint	Δ
Weekly						
HDPE natural PCR bottle bale	22-Nov	¢/lb	25.00	29.00	27.00	nc
		\$/t	551.16	639.34	595.25	nc
HDPE coloured PCR bottle bale	22-Nov	¢/lb	17.00	22.00	19.50	+1.50
		\$/t	374.79	485.02	429.91	+33.08
PP PCR bale	22-Nov	¢/lb	6.00	8.00	7.00	nc
		\$/t	132.28	176.37	154.33	nc
Recycled polyolefins US Midwest monthly market prices						
	Timing	Currency	Low	High	Midpoint	Δ
Monthly						
rHDPE BM natural, FDA approved	Nov 23	¢/lb	75.00	80.00	77.50	+5.00
		\$/t	1,653.47	1,763.70	1,708.59	+110.23
rHDPE BM light grey, non-FDA approved	Nov 23	¢/lb	45.00	50.00	47.50	+1.50
		\$/t	992.08	1,102.31	1,047.20	+33.07
rHDPE dark/black general purpose	Nov 23	¢/lb	34.00	38.00	36.00	-1.00
		\$/t	749.57	837.76	793.67	-22.04
rPP light grey, FDA approved	Nov 23	¢/lb	72.00	75.00	73.50	+1.50
		\$/t	1,587.33	1,653.47	1,620.40	+33.07
rPP light grey, non-FDA approved	Nov 23	¢/lb	50.00	54.00	52.00	+5.50
		\$/t	1,102.31	1,190.50	1,146.41	+121.26
rPP dark/black, general purpose IM	Nov 23	¢/lb	38.00	42.00	40.00	+2.00
		\$/t	837.76	925.94	881.85	+44.09

HDPE, PP bale, regranulate US Midwest



¢/lb HDPE bale, rHDPE regranulate US Midwest



MARKETS UPDATE – RPE/RPP – ASIA-PACIFIC

rPE SE Asia: Market stable

Southeast Asian recyclers maintained stable export offers this week for rLD/LLDPE pellets, although demand remained suppressed in a low virgin-price environment.

The 98/2 LD/LLDPE bale import price was stable at \$385-440/t. Southeast Asian recyclers response to last week's progression of EU waste shipment regulations was relatively muted. The European Parliament and EU member states announced last week that they have finalised an updated regulation on waste shipment, prohibiting export of plastic waste from the bloc to non-OECD countries. The provisional deal needs to be formally approved later this year, and the ban would apply from 2.5 years after it is adopted and published in the EU's official journal. Southeast Asia is a major importer of PE film waste from the EU, although one major Indonesian recycler said this was unlikely to affect the price of his products as his feedstock is sourced domestically. Other major Indonesian recyclers were likely to be unperturbed by the announcement, he said, although newer entrants to the market that operate with smaller capacities and have not had the chance buy in to the supply chain to develop their own waste collection infrastructure could be more affected.

The Indonesian domestic rPE market remained stable this week as there continued to be limited offers and bids placed. The end of the year is typically a period of low activity for

Recycled polyolefins Asia Pacific market prices						
	Timing	Currency	Low	High	Midpoint	Δ
South East Asia rPE						
HDPE rigid bale PCR domestic Indonesia	24-Nov	IDR/kg	11,200.00	12,000.00	11,600.00	nc
		\$/t	720.00	770.00	745.00	nc
98/2 flexible PE bale, post commercial cif SE Asia	24-Nov	\$/t	385.00	440.00	412.50	nc
rHDPE natural, from PCR, domestic Indonesia	24-Nov	IDR/kg	22,500.00	23,100.00	22,800.00	nc
		\$/t	1,450.00	1,490.00	1,470.00	nc
rLDPE/LLDPE standard film, transparent. fob southeast Asia	24-Nov	\$/t	815.00	845.00	830.00	nc

southeast Asian recyclers. A major Indonesian recycler concluded deals for rHDPE pellet natural at 22,500 rupiah/kg and rHDPE was assessed stable at Rp22,500-23,100/kg. Market participants said the price could decrease in the coming weeks as it seems that domestic consumption is down and the retail market is weakening. Indonesian domestic HDPE bale was assessed stable at Rp11,200-12,000/kg.

SUSTAINABLE FEEDSTOCKS

ARA bionaphtha premium falls

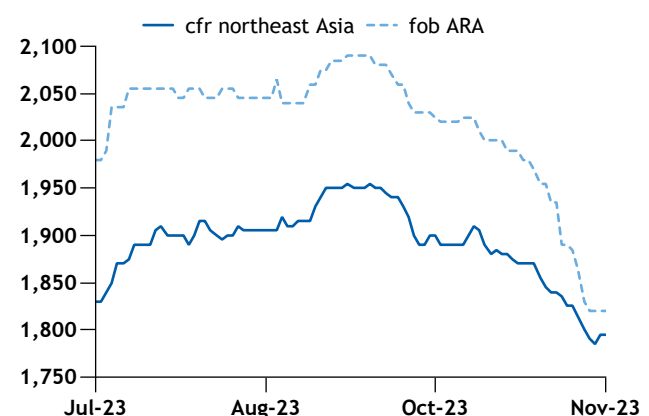
Price indications for fob ARA range used cooking oil (UCO)-based bionaphtha were at or near a \$1,200/t premium over conventional naphtha during the week, down from a premium of around \$1,300-1,350/t earlier in the month.

Values have followed hydrotreated vegetable oil (HVO) prices lower, and demand from both the road transport sectors and the petrochemicals industry remains subdued in Europe. One indication for UCO-based naphtha to be delivered in the first quarter of next year emerged at a €1,150/t premium over its fossil counterpart.

Asian bionaphtha indications were quoted in a wide range, from deals claimed from regular naphtha at more than \$1,100/t fob South Korea up to trades at a \$1,500/t premium on a cfr northeast Asia basis, although neither were confirmed. Persistent soft demand from the petrochemical sector meant the market remained illiquid.

Bionaphtha Snapshots				\$/t
	Timing	Low	High	Δ
Bionaphtha fob ARA	Nov 23	1,985.00	1,995.00	-80.00
Bionaphtha cfr Northeast Asia	Nov 23	1,865.00	1,885.00	-65.00

Bionaphtha



PETROCHEMICAL MARKETS

Europe

European PE demand is stable with order intake settling back into a stable hand-to-mouth pattern. Buyers are citing lower prices for spot volumes and imported product in contractual discussions. December will see further reductions in demand, which may be difficult for producers to balance.

PP sentiment remains cautious in Europe. Producers and converters are already disciplined on stock levels, but demand is still expected to slacken in December. Producers have kept their PP plants operational at reduced rates – to match low demand and prevent oversupply.

Market activity in the European PET resin market continues to be subdued and below anticipated levels for the time of year. Producers maintain reduced operating rates to manage inventory levels.

Americas

US PE operations in mid-November are stable. Spot availability has improved, with most grades available, though still some tightness for certain LDPE grades. Demand is showing signs of weakening as domestic buyers begin to draw down inventories before the end of the year.

Demand in US PP in November remains weak as buyers continue to draw down inventories before the end of the year, and some plants take extra downtime this month due to the US Thanksgiving holidays. Many producers are running at lower rates to avoid building inventory.

Asia-Pacific

PE buying sentiment fell in China on lower crude futures, whereas prices in southeast Asia were relatively stable.

PET resin trades picked up marginally in the fob China market because of wider discounts offered to buyers.

Manufacturers lowered offers because of softer energy prices as well as lower PTA futures. Most buyers were cautious as they expected a seasonal lull and increasing supply to weigh on PET resin prices in December. Consumers in the Chinese domestic market were unwilling to buy because manufacturers raised offers following firmer PTA prices.

Olefin monthly contracts & Polymer spot			
	Timing	Midpoint	Δ
Ethylene contract			
del NWE €/t	Nov 23	1,215.00	-45.00
cfr Taiwan \$/t	Sep 23	942.00	+42.00
Pipeline USGC €/lb	Oct 23	31.50	-0.50
Polymer grade propylene (PGP) contract			
del Europe €/t	Nov 23	1,080.00	-40.00
del Taiwan \$/t	Sep 23	888.00	+38.00
fob US €/lb	Oct 23	43.00	+4.00
HDPE IM spot			
del NWE \$/t	24-Nov	1,121.00	-22.00
cfr China \$/t*	24-Nov	875.00	-5.00
fas Houston bagged \$/t	24-Nov	849.00	-11.00
Polypropylene spot			
homopolymer del NWE \$/t	24-Nov	1,121.0	+5.0
raffia cfr China \$/t	24-Nov	880.00	+10.00
LLDPE butene-1 spot			
del NWE \$/t	24-Nov	1,121.0	-22.0
fas Houston \$/t	24-Nov	860.000	-11.000
cfr China \$/t	24-Nov	915.0	nc

*Main origin

Argus Global Polyethylene and Polypropylene



Argus Global Polyethylene and Polypropylene is a weekly pricing service with global resin prices and detailed commentary on key polymer grades.

Key features

- Detailed feedstock information on crude, naphtha, propane, ethane, ethylene and propylene
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NEWS AND ANALYSIS

China has plenty of capacity to up its recycled plastics production, but limitations in the recycling supply chain are capping output

Chinese recyclers face shortage of raw material

China's recycling collection infrastructure is lagging behind growth in processing capacity, and with beverage consumption reducing in China, recyclers are facing tightening feedstock availability.

China's PET recycling industry has developed rapidly in recent years. Several large enterprises have entered the market and invested in capacity to sort PET plastic waste, as well as washing, shredding and in some cases pelletisation.

Existing Chinese recycled plastics producers, such as Tianjin Incom Resources and Guangdong Intop, are expanding their processing capacity. Meanwhile, new joiners including leading vPET producers Yisheng Petrochemical and China Resources have added more than 250,000 t/yr of rPET production capacity.

But collection of waste plastic has not kept up with this growth. There have been some upgrades in recent years, but overall collection efficiency is low and unable to fulfill demand. Recyclers are unable to meet their feedstock needs through imports either, as the Chinese government imposed a ban on bringing plastic waste into the country in 2018. The majority of rPET supply is used in the fibre market as China has not granted approval for recycled material to be used in food contact applications. The slow development of collection has tightened the PET bale market, lifting prices and hindering production and sales of rPET flakes and pellets.

Where there's muck there's brass

China's lack of sufficient waste sorting facilities and its ban on plastic waste imports have added significant costs for plastic recyclers. Colourless PET bales trade at around 5,000-5,500 yuan/t (\$605-665/t) in the Chinese domestic market, much higher than in southeast Asian markets. Colourless PET bales in Indonesia trade at 7,900-8,100 rupiah/kg, equivalent to \$510-520/t.

And rising wages in China have lifted the cost of waste plastic collection, particularly in the country's economically developed coastal areas. Post-consumed plastic bottles are usually picked up by hand at roadsides and in residential areas, then aggregated and sent to collection companies. This system makes for a labour-intensive and costly supply chain, although some cities are encouraging residents to separate their household waste.

And beverage consumption in China has slowed on the past two years, further limiting the supply of waste PET in the country. Chinese beverage production fell by 2.5pc in the first 10 months of this year compared with the same period of 2022, and by 2.7pc compared with January-October 2021, according to National Bureau of Statistics data. Lower beverage production and consumption means fewer disposed PET bottles are available, but it has not reduced demand for rPET – as the beverage industry is not a consumer of recycled material, because it has not been approved for use in food and drink applications.

Pick-up game

Some cities and companies are now focusing on improving their waste plastic collection in order to increase the supply of raw material available to recycling companies. Shanghai aims to collect 700,000 t/yr of waste plastic in 2025 and is introducing smart collection machines and smart collection stations for plastic bottles and waste textiles. Meanwhile, collection company Lovere operates 17,500 smart waste collection machines across 37 cities in China, collecting 1,200 t/d of waste, including paper, clothes and plastics.

NEWS AND ANALYSIS

A move to more formal waste collection systems would likely benefit recyclers in terms of the quality of feedstock available to them. In Europe, plastic packaging waste that is separated from other materials before disposal has an 80pc recycling rate, data from industry association PlasticsEurope show. This compares with a 1pc recycling rate for plastic from mixed collections. PET bottles collected through deposit return schemes (DRS) have an even higher recycling rate, averaging 87pc, according to trade group Plastic Recyclers Europe.

A move away from informal collection systems would likely improve the consistency of supply, if new systems can be implemented in cost-effective ways. In southeast Asia, where informal collection is common, supply of waste can be affected by seemingly unconnected factors, such as the onset of the harvest season, which can give waste pickers lucrative alternative employment.

But formalising collection could introduce potential pitfalls for recyclers, depending upon how it is structured. In Europe, where producers of PET beverage bottles will be compelled by legislative targets to use at least 25pc recycled content by 2025, the beverage industry has called for a “right of first refusal” on ownership of plastic waste collected in DRS systems, based upon the number of bottles that they put onto the market. Recycling associations have expressed concern that such a system will prevent them from negotiating feedstock prices, turning them into effective “toll processors” for the industry and discouraging investment in recycling. The debate on this topic continued last week at the European Sustainable Packaging Forum in Amsterdam (*see below*).

NEWS AND ANALYSIS

Plastics production is a huge contributor to global CO₂ emissions, but there are no signs that the sector will be discussed at Cop 28, writes Will Collins

Lack of Cop 28 chemicals, plastic focus puzzling

The apparent absence of a focus on plastics in discussions during the upcoming UN Cop 28 climate summit is puzzling, considering the role that chemicals and plastics production play on both sides of the debate.

On one hand, the petrochemicals industry is the world’s third-largest industry sub-sector in terms of direct CO₂ emissions, according to energy watchdog the IEA. Petrochemical feedstocks are “the main long-term pillar of oil demand”, the IEA says. But on the other hand, plastic can contribute to lower carbon emissions in various applications, including as a lightweight alternative material for car parts or packaging, or by prolonging the shelf life of perishable items to reduce food waste.

But a lack of globally harmonised regulation is impeding investment. A greater forum for discussing chemicals and plastics at Cop 28 could accelerate progress, but plastics do not feature on the Cop 28 presidency schedule – although there will be multiple events at the summit, some of which may focus on plastics.

Baby steps

The proliferation of sustainability commitments in the plastics industry accelerated in 2017 and 2018, when the “Blue Planet effect” focussed public discourse around plastic waste in the environment, particularly the seas. But the discussion has evolved since then, with the carbon benefits of recycled and bio-based feedstocks now an equally prominent part of discussions.

Many of the largest global petrochemical and polymer producers have announced measures to reduce their carbon footprints, including by producing more recycled or non-fossil based plastics. Argus recently [examined some of these pledges](#) and found that the firms surveyed have committed to market a total of

NEWS AND ANALYSIS

around 17mn t/yr of products with some recycled or bio-based content by 2030. This is not a small volume, and the companies surveyed do not account for all producers that have made sustainability commitments. But measures will need to continue to be scaled up to be effective in the context of estimated global plastic production of more than 350mn t/yr in 2021. This will require significant investment and likely a trusted framework around which future developments can be focussed.

Many producers are taking other steps to reduce their Scope 1 emissions – those directly from an organisation's activity. Some are switching away from fossil fuels as a source of heat and power, including [Brazilian firm Braskem](#), which has replaced steam-based turbines with electric motors at its Sao Paolo steam cracker. And collaborations involving Dow, Shell, Sabic and BASF are developing electrically heated steam cracker furnaces, which could reduce emissions by up to 90pc.

But again, scale will be the key. Such changes are not cheap and firms will look for assurances that investments will not make them uncompetitive against peers that retain traditional production processes.

Brick by brick

Tackling emissions in chemicals and plastics is multi-faceted and require a large number of investment decisions. The polymer producers surveyed by *Argus* own or are partners in around 60 mechanical and chemical recycling projects, but the combined input capacity of these projects is only around 3.5mn t/yr.

Scaling up will require many more projects, with many more investors to be brought on side. Convincing multiple decision-makers that investments are worthwhile and financially viable is more likely to be challenging.

The UN global plastics treaty negotiations, which recommenced in Nairobi this week, have the stated aim of harmonising the patchwork of regulations governing the sale, disposal and recycling of plastics, which can differ widely between and even within regions. But [it is a mammoth task](#). The global nature of the chemical and plastic industries, and the fact that they are spread across a huge number of disparate applications, add to the complication. The EU's prolonged negotiations about how to apply mass balance accounting to attribute chemically-recycled content in plastics is another example of how agreements can be difficult because such a large number of stakeholders are involved in the discussions.

The exclusion of petrochemicals and polymers from the EU's initial Carbon Border Adjustment Mechanism (CBAM) also hints at the difficulty of applying regulations to such a wide-ranging industry. Proponents would argue that including the industries in CBAM would give it confidence that investments in greener processing technologies would not make them uncompetitive in the global market. Opponents might point to a potential to disrupt imports, upon which Europe relies for a number of chemical and polymer products.

The petrochemicals industry cannot rely on legislators to make the case for investment. It needs to demonstrate viable technologies for investors and legislators to get behind. For example, an EU decision on mass-balance accounting will not drive investment on its own unless chemical recycling and the supply chain around it can be shown to work on a commercial scale.

But clear, unilateral regulations are needed to help firms assess whether to invest in projects that could improve sustainability, and ensure that improvements take place globally rather than piecemeal or region by region. Discussion at Cop 28 about how to support the petrochemical and plastic industries to lower their negative climate impact, while preserving these benefits, would surely be valuable.

NEWS AND ANALYSIS

Legislation/associations

UN plastic treaty progress gets mixed responses

Reactions to the closing of the third round of negotiations for a UN global treaty to tackle plastic pollution (INC-3) in Nairobi last week were mixed. Negotiators discussed amendments to the [zero draft](#) that the UN Environmental Programme (Unep) released in September.

The outgoing INC chair Gustavo Adolfo Meza-Cuadra Velasquez hailed a “significant step forward towards the achievement of our objective to develop an international legally binding instrument to end plastic pollution” but added that “much remains to be done both in narrowing down our differences and in developing technical work to inform our negotiations”.

But environmental groups including Greenpeace and the Environmental Investigation Agency (EIA) said that the influence of some plastic-producing countries frustrated progress, with the former saying that discussions are “charging towards catastrophe”.

“Governments are allowing fossil fuel interests to drive the negotiations towards a treaty that will absolutely, without question, make the plastic problem worse and accelerate runaway climate change”, said Graham Forbes, head of Greenpeace’s delegation at the negotiations.

“The petrochemical influence loomed large over the negotiations, with a ‘like-minded’ group of plastic-producing countries thwarting efforts for a more robust agreement”, said EIA ocean campaigner Jacob Kean-Hammerson.

Reports from the International Institute for Sustainable Development (IISD) suggested a similarly mixed response from delegates at the sidelines, with some indicating “a heightened trust in the process and the people” and others concerned about “endless hours of circular debate”.

Negotiators at INC-3 were split into three focus groups to discuss different sections of the zero draft, resulting in a number of proposed amendments to the original text, which will now need to be consolidated ahead of the fourth session. In some cases the proposed amendments would soften or caveat the original text, although the individuals proposing each amendment were not named and the large number of sometimes-conflicting proposed amendments makes the results difficult to assess until an organised new version of the zero draft is released.

Regarding the large number of proposed amendments to the zero draft, IISD reported that one delegate said “before we can negotiate anything, this text will need to be at least readable”.

One example amendment was the addition of “taking into consideration their respective capabilities and national circumstances” to the lead paragraph of the section setting out options for reducing global plastic production.

And the section setting out options for global or nationally-defined recycled content requirements for plastic products received two additional proposed options for delegates to vote on. One says that requirements should be implemented “as appropriate taking into account national circumstances and capabilities”, and the other softens the obligation for minimum percentage requirements of recycled content to say “the governing body shall provide a time-frame... towards transitioning all plastics in the market to be recyclable and this may entail gradual, incremental minimum percentage of safe and environmentally sound post-consumer recycled”.

The fourth round of negotiations will take place in Ottawa, Canada in April 2024, with the fifth scheduled for the end of next year in South Korea.

By Will Collins

EU finalises plastic waste export ban

The European Parliament and EU member states have finalised an updated regulation on waste shipment, prohibiting export of plastic waste from the bloc to non-OECD countries.

The provisional deal needs to be formally approved later this year. Once adopted and published in the EU’s official journal, the regulation will become directly applicable in EU states.

Parliament said it ensured plastic waste can no longer be exported to non-OECD countries two-and-a-half years after entry into force. A conditional transition period for individual countries could be granted from five years after the regulation enters into force. But the European Commission said this would only happen if the non-OECD receiving country informs and convinces the commission of its ability to manage waste sustainably.

Plastic waste exports to OECD countries will also require the concerned countries’ prior written notification and commission consent, as well as closer compliance monitoring. The commission will be empowered to monitor EU waste exports to OECD states with the possibility to act, if such exports create environmental problems. EU exporters must ensure non-EU facilities receiving their waste undergo an independent audit.

Officials said intra-EU waste shipments for recycling should become easier due to digitalised procedures, although shipping of waste destined for disposal in another EU country to be allowed only “exceptionally”, parliament said.

“The EU will finally assume responsibility for its plastic waste by banning its export to non-OECD countries,” said Danish centre-right EPP’s Pernille Weiss, who led parliament’s negotiating team.

European recycling industry association Euric has previously highlighted the importance of boosting European

NEWS AND ANALYSIS

recycling capacity and recycle demand, if exports are to be phased out without affecting recycling rates.

Restrictions on extra-EU plastic waste exports would particularly affect flexible PE. An average of nearly 105,000 t/month of PE waste has been exported from the EU-27 since January 2022, data from Global Trade Tracker show. Most of this is film waste, according to recycling association Plastic Recyclers Europe (PRE). Nearly three quarters of this went to non-OECD countries, particularly Indonesia, Malaysia and Vietnam, and Turkey is the only major OECD importer of EU PE waste.

PRE's most recent data estimate that 2.4mn t of flexible film waste was processed by EU recyclers in 2020, suggesting European recycling capacity or exports to OECD countries would need to increase by more than 40pc to prevent a ban on non-OECD exports from negatively affecting recycling rates. This would also need to include capacity to recycle bales with a lower proportion of transparent films, such as 90/10 or 80/20 bales. These are less desirable to many European recyclers owing to the need to pre-sort the material to manufacture transparent or translucent film pellets, which are more valuable than non-transparent pellets.

Non-OECD exports of other plastic waste types are already much lower, at just over 5,000 t/month for polypropylene (PP) and just under 10,000 t/month for polyethylene terephthalate (PET) since the start of January 2022.

A version of the regulation released in January included a requirement for plastic waste exports to OECD countries to be phased out over four years, although this was not specifically mentioned in today's statements from the parliament and commission. The latter did say it would "also monitor waste exports to OECD countries and take action if such exports create environmental problems in the country of destination."

By Dafydd ab Iago and Will Collins

UK set to miss Plastic Pact targets: report

The UK is set to fall short of its 2025 UK Plastics Pact targets, particularly owing to slow developments in collection, sorting and recycling of flexible plastic packaging, international climate non-governmental organisation Wrap said in its latest progress report.

In particular, a lack of kerbside collection and recycling for films is holding back progress towards the targets for all plastic packaging to be recyclable, reusable or compostable, and for 70pc of plastic packaging to be effectively recycled or composted by 2025.

In 2022, 73pc of plastic is recyclable or reusable, Wrap said, which is a 5pc increase compared with 2018 when the UK Plastics Pact was introduced. But the lack of widespread collection infrastructure for primary plastic packaging made from polyethylene (PE) and polypropylene (PP) films meant that these items – which comprised 17pc of the packaging

placed on the UK market last year – could not be counted towards the target, stalling progress.

The rate of effective recycling/reuse for plastic packaging was 55pc in 2022, up from 44pc in 2018 but still well short of the 70pc target. Wrap again said that plastic bags and wrapping are "the key plastic that is impeding our ability to hit the Pact's targets", and "ongoing delays in the implementation of policy reforms, and the Plastics Tax not addressing all market failures, have left many companies and potential investors reluctant to commit to large-scale investments".

"Regulation is critical to hit the targets", Wrap said, although the UK government is not scheduled to make kerbside collection of recyclable plastic films mandatory until 31 March 2027. But retailers could also show "boldness" by removing plastic films from uncut fruit and veg, it said, which would reduce the amount of this problematic category on the market.

Wrap also highlighted the outcome of the UK's recent consultation on the methodology for [mass balance-attributed chemically-recycled](#) content to count towards packaging producers' Plastic Packaging Tax targets as important for increasing the amount of recyclates that are used back into the packaging industry. UK plastic packaging had an average recycled content percentage of 24.1pc in 2022, up from 8.4pc in 2018, but progress towards the 2025 target of 30pc will likely slow as many of the "low-hanging fruit" opportunities to include recycled content have now been realised.

While the targets are unlikely to be met in full, Wrap highlighted several success stories since the UK Plastics Pact was launched. This included the elimination of 99.6pc of "problematic" plastic packaging items – such as polyvinyl chloride (PVC) – and major new mechanical recycling capacity increases during 2023, such as Biffa's expansion of its HDPE recycling plant in Redcar, Teesside, and Berry Polymers' new PP recycling plant in Leamington Spa, Warwickshire. Rising domestic capacity led to a 61pc increase in the amount of plastic packaging recycled in the UK – rather than exported – between 2018 and 2022.

By Will Collins

NY AG sues PepsiCo over plastic waste

New York Attorney General Letitia James sued PepsiCo over plastic pollution found in the Buffalo River.

The lawsuit accuses PepsiCo of failing to warn its consumers of the health and environmental effects of single-use packaging, as well as misleading the public about the company's efforts to combat plastic pollution.

"No one should have to worry about plastics in their drinking water, plastic garbage littering their scenic riverfront, or plastic pollution harming wildlife," James said.

Microplastics, or tiny particles of plastic that break off of plastic waste, have become a pressing health concern after

NEWS AND ANALYSIS

a 2022 study at the Vrije Universiteit Amsterdam found polyethylene terephthalate (PET) particles in human blood.

A study conducted by the office of the Attorney General found that 17pc of the single-use plastic polluting Buffalo River was PepsiCo products, including Frito-Lay packaging and Gatorade bottles. The lawsuit claimed that amount is three times more plastic waste than any other company in the same river.

The lawsuit also alleges that PepsiCo “touts ineffective solutions and lofty goals” that do not end up materializing.

PepsiCo did not immediately respond to a request for comment.

The lawsuit seeks to force PepsiCo pay damages for plastic waste and to stop sales of single-use plastic bottles in New York.

Last year, California Attorney General Rob Bonta subpoenaed Exxon for its alleged role in contributing to plastic pollution in a similar action.

By Zach Kluver

Chemical recycling

LyondellBasell progress with plans for pyrolysis plant

Chemical firm LyondellBasell has made its final investment decision to build the company’s first industrial-scale pyrolysis recycling demonstration plant at its site in Wesseling, Germany.

LyondellBasell has a proprietary pyrolysis technology, developed with the Karlsruhe Institute of Technology, which it calls Molecular Recycling Technology, or Moretec. It said the use of catalysts helps lower energy requirements and achieve faster chemical conversion, compared with pyrolysis alone. The Moretec technology produces pyrolysis oil and pyrolysis gas.

The new plant is expected to have a capacity of 50,000 t/yr and is designed to recycle the plastic packaging waste generated by over 1.2 million German citizens per year. Construction of the facility is planned to be completed by the end of 2025.

LyondellBasell in October 2022 created a joint venture company, [Source One Plastics](#), to build a sorting plant in Germany to provide sorted pyrolysis feedstock material.

The pyrolysis oil produced by the MoReTec facility is expected to be used for the production of polymers sold by LyondellBasell under the CirculenRevive product line for use in a wide range of applications, including medical and food packaging. The company hopes that the demonstration plant will close the gap for difficult to recycle plastics, such as mixed or flexible materials that are currently sent to landfill or incineration.

By Chloe Kinner

Pyrum, Remondis plan tyre pyrolysis plant

German tyre pyrolysis firm Pyrum Innovations is planning to build a 20,000t/yr tyre pyrolysis unit in the port of Bremen with waste management and recycling operator Remondis.

The firms announced today that a letter of intent had been signed to build the €40mn (\$42.7mn) plant on land owned by Weserport, a subsidiary of Remondis’ sister company Rhenus. Pyrum expects to start gathering approvals to allow construction to begin in the next few weeks, with a view to completing this process in the first half of next year.

The facility will produce pyrolysis oil, which will be supplied to German chemical company BASF – already the oftaker for pyrolysis oil from Pyrum’s existing plant in Dillingen/Saar – and recovered carbon black which will go back into the tyre industry.

“This is another important milestone in increasing our recycling capacity to meet the high demand for our end products”, Pyrum chief executive Pascal Klein said.

Pyrum recently announced the first production of pyrolysis oil from the new second reactor at its Dillingen/Saar plant, and expects first production from a third reactor “shortly afterwards”. The two new reactors will triple the overall capacity of the plant to around 20,000t/yr. It has announced plans to build several other plants, including another 20,000t/yr unit in the Czech Republic – announced in October – which is scheduled to start up in 2025.

By Will Collins

Mechanical recycling

Aloxe opens rPET pellet plant in France

Recycled plastic producer, Aloxe, inaugurated its new recycled PET plastic manufacturing plant in Messein, France, the largest in the country.

The facility increases Aloxe’s rPET production capacity to 50,000 t/yr from 12,500 t/yr with two new EREMA production lines in operation, and old lines from the existing facility in Vezelise. Aloxe has invested €25mn into the facility.

By 2024 the company plans to have rPET capacity in Europe of 120,000 t/yr, at plants in France, Poland and Italy.

By Chloe Kinner

Nestle invests £7mn in UK flexible plastic recycler

Food company Nestle has agreed to loan £7mn (\$8.67mn) to Impact Recycling, to help it to get a new 25,000 t/yr plant to process difficult-to-recycle film waste in Durham, England “off the ground”.

The facility is scheduled to start up in summer 2024, using a “baffled oscillation separation system” which spins waste in water to sort it by density for recycling. It aims to supply pellets for new flexible applications, such as refuse sacks.

NEWS AND ANALYSIS

Impact Recycling also received funding from UK Research and Innovation's Sustainable Innovation Fund, announced in late 2021.

Nestle gave several examples of its own brands' packaging that the new plant could recycle, such as KitKat wrappers and Purina pet food pouches, which "will be collected from major supermarket collection points so they can be recycled".

A lack of collection and recycling infrastructure was highlighted in a recent report by non-governmental organisation Wrap as one of the primary reasons that the UK is not currently on course to hit the targets set out in the UK Plastics Pact by 2025.

By Will Collins

Companies news

Eco Baltia acquires Poland's largest PVC recycler

Latvian waste management and recycling company Eco Baltia has acquired a majority share in Metal-Plast, the largest recycler of PVC windows and doors in Poland.

Eco Baltia is a portfolio company of private equity fund INVL Baltic Sea Growth Fund. INVL owns a 52.81pc stake in Eco Baltia.

Eco Baltia and INVL now own 70pc of Metal-Plast, with 38.5 pc and 31.5pc, respectively. Metal-Plast founder Sebastian Fedorowicz will retain a 30pc stake in the business.

Metal-Plast has a recycling capacity of 29,000 t/yr. Eco Baltia plans to increase that to 45,000 t/yr. The operations cover the Czech Republic, Germany, Hungary, Slovakia and Austria.

Metal-Plast's chief executive Grzegorz Jasinski said Poland and Germany are poised for a new wave of window replacement work, while the European Commission estimates that over 35mn residential buildings in the EU will require renovation by 2030.

By Chloe Kinner

Neste, Mitsui to produce bio-based packaging

Finnish biofuels producer Neste, Japan's Mitsui Chemicals and its Prime Polymer subsidiary have agreed to co-operate on the use of bio-based raw materials to produce packaging material for Japanese CO-OP seaweed snacks.

The companies aim to introduce "bio-based raw materials also to packaging for further products".

Neste will supply Neste RE, a feedstock for polymers made entirely from bio-based raw materials. This will be processed by Prime Polymer into renewable polypropylene,

which will then be turned into food packaging.

The renewable material will be allocated to the plastic packaging via mass-balancing. The seaweed snack packaging is the first mass-balanced renewable plastics packaging to receive the Japanese Eco Mark certification for eco-friendly products, the companies said.

CO-OP is a brand of the Japanese Consumers Co-operative Union (JCCU).

By Giulia Squadrin

Pan Era, Milliken to recycle PP in Indonesia

Indonesian polyolefins recycler Pan Era has today signed an initial agreement with US manufacturing company Milliken to recycle polypropylene (rPP) in Indonesia.

Pan Era will provide the rPP while Milliken Chemical, the subdivision of the company specialising in additives, will enhance the rPP with additives and handle the manufacturing of finished goods. The partnership will allow the Indonesian recycler to access more customers in the domestic Indonesian markets and within the region. The rPP produced will be under Pan Era's patented recycled polyolefin brand Eterlene.

The rPP will initially be used to produce thin wall plastic packaging for non-food contact applications. Pan Era will supply approximately 8,000 t/yr of rPP, based on existing Indonesian recycling rates of rPP, according to Milliken's plastic additives, chemical division country manager Daniel Tanzil. Using rPP in food-contact applications is currently tricky, given a lack of standardised regulations within the region.

The melt flow index (MFI) of rPP produced in Indonesia is typically below 30 g/10 minutes. The collaboration between the two companies has produced three new grades of rPP, all with an MFI of 40 g/10 minutes or higher. A higher MFI diversifies the range of rPP applications from thin wall packaging and can extend to the automotive, electronics and industrial sectors, Tanzil said.

The new grades of rPP could be commercially available to customers within the next two months, but this could be prolonged as prospective customers will have differing requirements for the specifications of grades of rPP needed for their products, Milliken said. Milliken has begun marketing the product to global brand owners such as Procter and Gamble and Unilever as well as local companies such as Wings, Tanzil said.

Milliken has previously collaborated with other PP recyclers such as Florida-based Purecycle Technologies to enhance their rPP.

By Akash Ravinran

NEWS AND ANALYSIS

Fundamentals

Sept US scrap plastic exports, imports rise

Scrap and waste plastic exports and imports in the US rose slightly in September, according to GlobalTradeTracker (GTT) data.

Plastic waste exports rose by 0.07pc to 34,781 metric tonnes (t) compared to September 2022. Imports to the US increased by 0.58pc, to 34,440t from September 2022.

Mexico, Canada and Malaysia remained the top recipients of US plastic waste, with India and Vietnam following behind.

Depending on the classification used by shipping companies, the statistics may include flake and regrind plastic in addition to bales of plastic waste.

US exports to Canada reached 13,522t in September, an increase of 9pc from September 2022. Exports to Mexico dropped by 18.7pc to 5,630t, and US exports to Malaysia drastically increased by 195pc to 3,976t, compared to the same month in 2022.

Malaysia and other south Asian companies have taken more plastic waste from the US after China restricted plastic waste shipments in 2017.

For polyethylene scrap, India and Malaysia took the most US exports, followed by Canada and Vietnam. In September, 79pc of imports of polyethylene scrap to the US came from Canada.

The US exported 52pc of its polyethylene terephthalate (PET) waste to Mexico in September, but Canada imported the most PET waste into the US in September, with 32pc of import volume.

When considering all plastic waste, Canada and Mexico were also the top two countries to export their waste to the US in September, while Ecuador was a distant third place.

Canada exported 14,925t of waste to the US in September 2023, an increase of 4.8pc compared to 2022. Mexico exported 5,585t, a decline of 38pc.

Both global and US recycled plastic markets have been under pressure thanks to weaker demand this year, a likely contributor to reduced export and import volumes.

In July, April, March and February, waste plastic exports from the US dropped by more than 9pc compared to the same months in 2022. Increases were substantially less, indicating that exports are very likely to drop year-on-year in 2023.

Exports of plastic waste dropped by 21.7pc to 562,339t in 2022 compared to 2021 exports.

In the first seven months of 2023, **US exports of plastic waste and scrap fell by 8pc.**

By Zach Kløver

Technology

Suez and CFL to develop LPG replacement plant

British waste management company Suez Recycling and Recovery UK and waste to renewable dimethyl-ether (rDME) producer Circular Fuels limited (CFL) have signed an initial agreement to produce renewable and recycled dimethyl-ether (rDME) from refuse derived fuel (RDF).

As part of the agreement, the companies aim to design and operate a pre-treatment process to produce RDF, with Suez planning to supply some of the 250,000 t/yr of RDF feedstock needed to produce the rDME, a low-carbon LPG replacement. Feedstock will come from household and commercial sources, the companies said. The non-recyclable waste will be pre-treated to produce a refuse derived fuel to feed the advanced gasification process and produce syngas. This will then be synthesised into renewable and recycled DME at CFL's **planned plant at Teesworks, Teesside**, they added.

The plant will produce 50,000 t/yr of rDME, which is equivalent to over 5pc of the UK's LPG demand, they said. The fuel will allow off-grid, LPG-reliant businesses and households to decarbonise their energy use and will contribute to the sector's ambition to be 100pc renewable by 2040, they said.

CFL is a subsidiary of Netherlands-based rDME producer Dimeta, which is a joint venture between LPG distributors SHV Energy and UGI International. CFL aims to produce 300,000 t/yr of renewable DME by 2027.

By Oliver Binks

Chemical recycling project tracker

Keep a track of the global chemical recycling project pipeline, including a view on capacities and pyrolysis oil offtake agreements, with our chemical recycling project tracker, available on Argus Direct at <https://direct.argusmedia.com/dataanddownloads>.

Search Data and Downloads from your dashboard to find out more.

NEWS IN BRIEF

French engineering company **Technip Energies** has announced the creation of a new company – **Reju** – which will focus on achieving commercial scale recycling of PET textile and packaging waste using a depolymerisation process, known as Volcat, developed by US technology firm **IBM**. Technip, IBM and US clothing manufacturer **Under Armour** have been working together since 2021 to advance the Volcat process, the firms said. The group is building a demonstration plant in Frankfurt that is scheduled to come on stream in 2024.

German chemical company **Evonik** has committed to “generate at least €1bn (\$1.1bn) in additional sales a year from circular products and technologies” by 2030. The firm outlined several areas in which it intends to grow, including additives and specialty chemicals for the circular economy, non-fossil-based feedstocks for chemicals production and the development of chemical recycling technologies for difficult-to-recycle PET waste.

Southeast Asian recycler **Teampias Group** and German chemical company **BASF** announced a collaboration to produce new “high-quality” office equipment and car interior

parts from post-consumer recyclates, with the help of BASF’s IrgaCycle additive portfolio. Teampias produces pellets mainly for electrical appliances, the firms said, but the addition of IrgaCycle additives would help it to improve the surface finish and thermal stability of products produced from its pellets, making them suitable for higher-value applications.

A coalition of European associations, including recycling trade body **Euric** and PVC recycling advocate **VinylPlus** on 15 November called upon the EU to ensure that updated waste shipment regulations do not create barriers to the shipment of PVC waste across EU borders for recycling. “Replacing EU entries and making PVC waste subject to the Prior Informed Consent (PIC) procedure under Basel Convention rules would create a barrier to the movement” of PVC waste, the associations said. Two days later, the EU announced an agreement on waste shipment regulations, which would – among other things – ban shipments of plastic waste to non-OECD countries within 2.5 years of adoption. It said that intra-EU waste shipments for recycling should become easier owing to digitalised procedures, although the final text is yet to be released. It will need to be formally approved before it is adopted and published in the EU Journal.



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