

The Marketplace for PRNs

Market Status Report By Tom Rickerby, Head of Business Development



Quarter 4 can be an unpredictable and volatile period as PRN price movements are influenced and exaggerated by the impending compliance deadline and diminishing trading opportunities. The final quarter of 2017 has seen it all; price collapse, price recovery and in the case of aluminium, inexplicable price inflation. This was played out to the arrival of China's import ban creating significant long-term uncertainty for the UK's recycling infrastructure and supply chain. Target increases across all materials will provide additional risk in 2018, prompting strong demand for transitional and forward PRNs during the period.

358,314 tonnes (t) traded during the period, up 13% on the previous quarter but down 27% on the same period last year. 121,162t were traded in the 2017 Spot market and 59,995t in the 2018 Spot. 135,530t were traded in the forward markets of which 86,000t were for 2018 delivery.

Paper

Paper prices fell from £2.00 to £0.95, shedding all the gains made in the previous quarter. Despite weakening values this was a relatively strong close to the year – the average Q4 price of £1.55 was £1.00 (183%) higher than the same period last year. The 2018 forward markets traded at £1.25 in good volume as buyers looked to mitigate against longer term price risk should the paper market contract in 2018. Traded volume was up 38% on the previous quarter.

Plastic

Q4 Plastic prices yo-yoed between a high of £50.00 and a low of £15.00 during the period. Even after record supply data and a collapse in PRN values towards the end Q3, trading in the final quarter remained nervy. By early December prices were on the rise again, forced upwards by competition to close positions and concerns over the temporary suspension of a major Plastics exporter. As buying opportunities dwindled in the final month of the year and additional distressed selling was placed in the market. Prices fell 70% to a year low of £15.00 in the latter stages of the quarter. Despite the soft close, 2017 has set a record average price for plastic PRNs - £48.51, topping the previous record set in 2005 by 6%. Competition for transitional tonnage was far more pronounced, pushing prices from £45.00 per tonne up 27% to £57.00 as anxious buyers looked to secure early 2018 evidence.

Glass Remelt

Late buyers finally saw some movement in the Remelt price in final months of the compliance year as sellers were forced to drop prices to trade final tonnages. Prices fell to £7.50 in the spot matching recent Q4 lows in 2016 and 2014. Despite the relative stability seen again this year, quarter on quarter average spot prices have seen a consistent downward trend. Average quarterly prices have fallen 19% from £12.93 in Q1 to £10.41 in Q4 as supply risk has subsided. 2018 prices have resorted to recent long-term market averages with trading in the Spot and Transitional markets averaging £12.23 per tonne.

Glass Other

Aggregate glass has consistently performed below target this year. Traded volume fell 25% on the previous quarter and Prices softened in line with the remelt price, falling 16% on the Q3 average.

Aluminium

Aluminium opened the quarter trading at £4.95, having more than halved in value since the beginning of the year. Further softening of the price was anticipated following surplus generation in Q3. However, it quickly became apparent that the availability of Aluminium PRNs belied

the supply data. By December the price had trebled to a year high of £15.00 per tonne and as more distressed buying emerged during the month prices soared to over £45.00 per tonne. By early January the situation seemed to be easing with a 25% retrace to £33.00. However, in the face of non-compliance and with the market seemingly down to its last available PRNs, trading in the final 2 weeks saw buyers trade from £66.00 up to a staggering £90.00 per tonne – the highest Aluminium price since 2009. Volume traded in the 4th quarter was the highest in 2017 and the quarterly average price was up nearly 500% on the year to date average at the end of Q3.

Steel

Steel became a major contributor to the general recycling pot for the second year in a row as prices fell into line with paper in the final

Continues on Page 2

	High	Low	Traded This Quarter	Quarter Average Traded Price	YTD Average Traded Price	Year to date aggregated traded
Paper						
Spot 2017	£2.00	£0.95	74,900	£1.55	£1.30	151,866
Dec Fwd 2017	£1.95	£1.75	11,500	£1.84	£1.13	143,726
Spot 2018	£1.25	£1.25	24,751	£1.25	£1.25	24,751
Apr Fwd 2018	£1.25	£1.25	5,000	£1.25	£0.96	132,500
Jul Fwd 2018	£1.25	£1.25	25,000	£1.25	£1.05	102,500
Oct Fwd 2018	£1.25	£1.25	49,000	£1.25	£1.25	49,000
Plastic						
Spot 2017	£50.00	£15.00	46,721	£35.95	£50.68	214,689
Dec Fwd 2017	£36.00	£36.00	4,335	£36.00	£45.27	34,581
Tran Jan Fwd 2018	£52.00	£36.00	3,961	£44.95	£50.66	5,711
Spot 2018	£57.00	£45.00	19,631	£53.91	£53.91	19,631
Glass Aggregate						
Spot 2017	£10.00	£9.00	2,514	£9.43	£10.88	10,328
Dec Fwd 2017	£9.50	£9.50	3,000	£9.50	£10.23	5,155
Tran Jan Fwd 2018	£10.00	£10.00	216	£10.00	£10.00	216
Spot 2018	£10.00	£10.00	272	£10.00	£10.00	272
Glass Remelt						
Spot 2017	£15.00	£7.50	7,467	£10.41	£11.49	22,775
Dec Fwd 2017	£11.00	£10.50	7,809	£10.56	£11.01	10,862
Tran Jan Fwd 2018	£12.25	£12.25	2,500	£12.25	£12.47	6,000
Spot 2018	£13.00	£11.00	811	£12.19	£12.19	811
Steel						
Spot 2017	£3.00	£0.65	14,723	£1.59	£4.51	43,546
Dec Fwd 2017	£2.00	£1.80	5,659	£1.99	£2.22	16,859
Tran Jan Fwd 2018	£6.00	£6.00	350	£6.00	£6.75	2,650
Spot 2018	£6.00	£5.25	8,366	£5.74	£5.74	8,366
Apr Fwd 2018	£5.25	£5.25	7,000	£5.25	£5.25	7,000
Wood						
Spot 2017	£8.50	£2.00	8,939	£4.88	£2.86	27,578
Tran Jan Fwd 2018	£8.50	£6.50	2,000	£7.50	£4.77	8,000
Spot 2018	£8.50	£6.25	1,908	£6.85	£6.85	1,908
Aluminium						
Spot 2017	£90.00	£4.75	3,113	£49.68	£26.72	7,060
Dec Fwd 2017	£5.00	£5.00	500	£5.00	£6.43	700
Spot 2018	£15.50	£15.50	256	£15.50	£15.50	256
Recovery						
Spot 2017	£0.30	£0.25	4,412	£0.27	£0.39	27,921
Tran Jan Fwd 2018	£0.50	£0.40	7,700	£0.42	£0.43	15,700
Spot 2018	£0.50	£0.30	4,000	£0.31	£0.31	4,000

The Marketplace for PRNs

Managing Directors Comments – February 2018

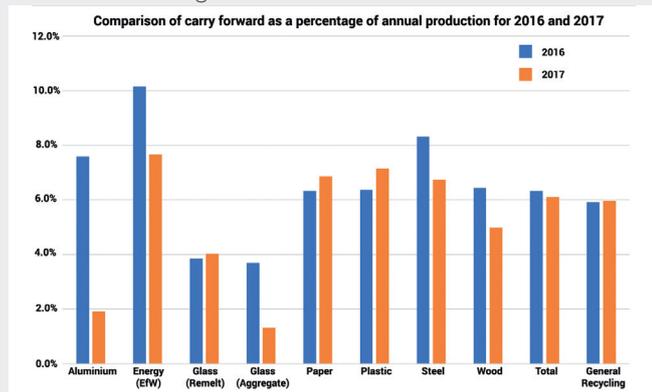


A busy quarter, near record tonnages traded through t2e, the end of the 2017 compliance year and the start of the 2018 one, the publication of initial year end data which gives insight for the next but, as 2017 showed, accuracy in PRN predictions is difficult. It is a cause for concern when market participants chose not to act logically and raises concerns

of market abuse. Meanwhile the Circular Economy Package grinds slowly through several iterations towards final approval in the summer:

Review of 2017

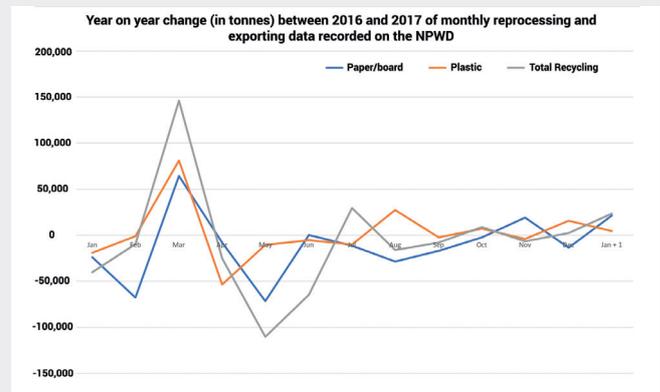
Based on the provisional monthly, quarterly and annual data published by the Environment Agencies, compliance in all materials was achieved with a relatively tight margin of some 150,000 tonnes or 0.6% of Recycling PRNs. Some 44,000 more PRNs were issued than required to meet the obligation. Growth was achieved in all materials except Paper; in light of the well-publicised troubles of export to China possibly unsurprising, Glass Other and Recovery. The shortfall in Glass Other was easily covered by Remelt and the drop in Recovery a reflection of price rather than capacity. Aluminium, Steel, Paper and Wood all exceeded their material specific targets. The potential carry forward is similar in tonnage terms to that brought forward into 2017.



Mysteriously, given the 2018 target growth, the Aluminium carry forward has dropped by some 5,000 tonnes or 74% with the sector failing to issue PRNs on 8,582 tonnes or 10% of its annual production. In December and January there was plenty of demand from buyers in both compliance years with prices rising steeply in the 2017 spot market. The non-availability of this selling makes no logical sense. In the absence of logic, questions should be asked whether those with-holding tonnage were acting in the best interests of the market or their own self-interest and if it is the latter whether that should be identified as market abuse.

Looking forward to 2018

While accuracy is difficult from the provisional figures, some things can be anticipated. The obligation will increase by some 100,000 tonnes. The greatest incremental growth is needed by Wood at 3%, followed by Glass, Plastic and Aluminium at between 1.5% and 1.0%. If all this growth is achieved the General Recycling target will be achieved in year with some 50,000 tonnes to spare. This is reliant on no decline in Paper and Steel PRN Production. Even with a carry forward of some 440,000 tonnes, this is a tight margin. The rise in the 2018 General Recycling price reflects this concern. The change in monthly tonnage figures year on year show how volatile the secondary raw materials market has been. To avoid price uncertainty many have opted to trade in the 2018 forward markets.



These figures suggest that after the initial shock markets are being found for paper and plastic outside of China. Quality remains key, even if this may at first give the impression that the level of recycling has diminished.

Circular economy package

In the most recent iteration of the circular economy package the material specific targets for wood have been dropped to 30% by 2030 from 75%. A target that the UK is already close to exceeding. Given that future targets will accept up to 5% from preparation for reuse and specific mention is made of the reuse of pallets the thinking behind this scale of revision remains mysterious. Even so wood will remain a key component in meeting the proposed 70% general recycling target in 2030.

Thank you to everyone for your support in 2017. We look forward to being of service to you in 2018. I hope that the 'Beast from the East' has not created too many challenges.

Angus Macpherson
Managing Director

Market Status Report *Continued from Page 1*

quarter. Average spot prices were down nearly 60% on the previous quarter but up 67% on the same period year last, helped by the buoyant paper price. Traded volume in Steel was at record levels in the quarter reflecting another record year for Steel PRN generation.

Wood

Wood spent much of Q3 trading below the paper price in-order to attract and compete for general recycling buying. However, by the 4th quarter, wood supply was looking oversold prompting a strong recovery in the price. The average spot price rose by 180% on the previous quarter and was nearly 4 times higher than the same period

last year – a strong finish for a market that is 40% oversupplied in-year. 2018 prices continue to rise with transitional PRNs trading up to £8.50.

Recovery

Recovery values hit a year low of £0.25 per tonne in the final quarter – The lowest recovery price since Q4 2013. Opening prices for 2018 weren't much better as markets began trading at £0.50 but fell to £0.30 at the close of the transitional period. The 2017 average price (£0.41) is the lowest since 2013 and impacted on tonnage traded as volume fell 21% year on year.

The Marketplace for PRNs

Q4 Supply Analysis *By Andrew Letham, Sales and Marketing Manager*



With events in China dominating conversation in 2017 and confirmation that the 'National Sword' initiative is here to stay in 2018, the Q4 data gives us the first real insight into the UK markets ability to

perform with export to what has historically been the single biggest buyer of both waste Paper and Plastic severely restricted.

A record Q3 in Plastic all but guaranteed target would be achieved for 2017 but question marks remained over the health of the market with many operators reporting a significant drop in activity with material not moving at all to China in November and December. Despite these difficulties the 173,783 tonnes (t) required to meet the 2017 target of 1,024,685t was dwarfed by the 258,120t reported for Q4. All told an 8% oversupply was achieved, meaning that not only was target met in year but 73,000t will be carried into 2018, the largest ever reported.

This rather staggering return sets the tone for the year ahead and shows the Plastic markets ability to replace lost capacity to China with existing and emerging markets. If Q4 supply was to be replicated over the four quarters of 2018 even with the 2% increase set to be introduced the recycling target would be achieved, albeit with significant contribution from carry-over. As it is still unclear how much material was exported to China during October and therefore contributed to Q4 it will be an anxious wait until the release of the Q1 data on the 22nd April for both sides of the market.

Paper recycling increased 3% from Q3 however, the 952,120 tonnes recycled meant that for the first time since 2010 there was a drop in, in year activity, falling 4% from 2016. A record carry-in of 249,995 will certainly help in 2018 but with a 1.5% target increase and a higher level of scrutiny into contamination from China in the form of the 'Blue sky' initiative having a serious effect on material prices, the outlook seems anything but plain sailing.

Volatility in Aluminium came as the greatest surprise in Q4 in a year that was effectively 11.5% (10,413t) oversupplied and had achieved target by late October. The tightness seems to have arisen from 8,582t of PRNs that were generated but left unissued, a rather surprising situation given the potential cash rewards available. It remains to be seen if this is an error which will be corrected on 31st March when the data is verified but if left unchanged the numbers don't make for pleasant viewing. As it stands only 1,803t have been carried over into 2018 (5,083t less than 2017) and a 3% target increase will be introduced which crudely equates to an additional 5,000t of demand. Glass, despite its rather soft finish to 2017 and slight increase on 2016 recycling numbers also gives some cause for concern as the market continues to rely on an ever-decreasing Carry-in to reach target. 1,622,672t were recycled in year up 16,201t on 2016 but 3,936t short of target in year. Carry-over has reduced again this year meaning only 54,279t will be available in 2018 as opposed to the 61,218t in 2017 and a 1% target increase will be introduced equating to approximately 20,000t of additional demand.

Wood posted its lowest return of the year in Q4 with 96,283t recycled. The 410,666 recycled in year easily covered the 2017 obligation of 248,727 but based on the same levels of packaging handled will not be enough to achieve the new 38% target in 2018. A carry-over of 19,062t (down 7,838t from 2017) into 2018 will do little to help but the price increases we have seen to date may be enough to stimulate the market and divert material from Bio-mass.

Steel supply continued at excellent levels in Q4 with 107,433t reported as recycled. Large amounts of the 98,962t oversupply were committed to the general recycling pot as prices fell below Paper in early November. Carry-over levels fell 20% to 27,111t despite the oversupply but it will take something a little more significant to stimulate the market even with a 3% target increase.

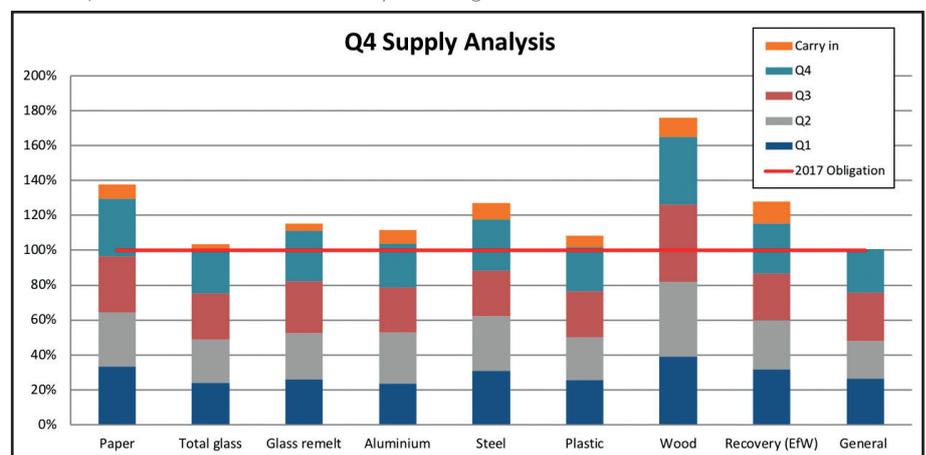
Levels of Recovery remained high throughout the year with 173,517t reported in Q4. Rock bottom prices gave little incentive for buyers to purchase PRNs early for 2018 as carry-over reduced by 28,187t from 2017.

With target increases in every material and a continued uncertainty at home and abroad 2018 looks set to be a very intriguing compliance year.

Material	Carry In	Q1	Q2	Q3	Q4	2017 Obligation	YTD Supply + Carry In	Balance
Paper	246,360	966,487	890,893	922,590	952,120	2,885,828	3,978,450	1,092,622
Total Glass*	61,218	387,752	403,808	435,682	395,588	1,626,608	1,684,048	57,440
Glass remelt	45,343	283,115	287,304	326,332	315,916	1,089,827	1,258,010	168,183
Aluminium	6,839	21,256	26,594	23,196	23,062	90,534	100,947	10,413
Steel	34,610	112,637	116,072	94,701	107,433	366,466	465,453	98,987
Plastic	64,709	261,070	250,687	274,571	258,120	1,024,685	1,109,157	84,472
Wood	26,900	97,350	106,558	110,475	96,283	248,727	437,566	188,839
EfW	77,900	193,209	171,539	161,846	173,517	607,812	778,011	170,199
General *	0	285,840	233,900	300,503	271,894	1,085,897		
Total	502,661	2,039,761	1,966,151	2,023,061	2,006,123	7,936,557	8,553,632	617,075

*Total Glass consists of the combined total supply of Glass Remelt and Glass aggregate.

* Please note the general supply figure has been generated from calculating the surplus material prns in each quarter and does not include carry in tonnage.



The Marketplace for PRNs

Where next for the PRN?

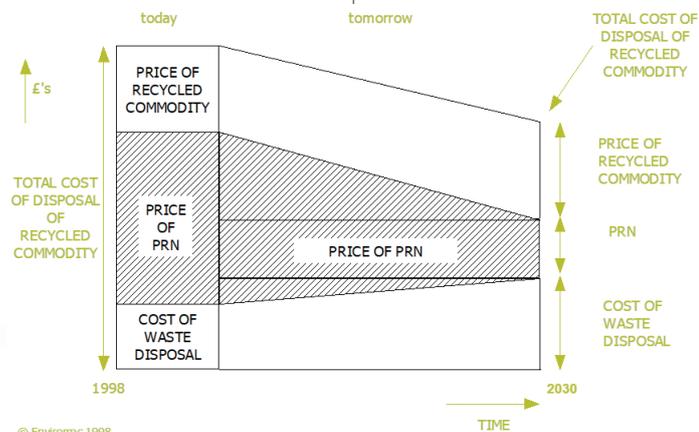


Once again the PRN system has delivered compliance for UK businesses and the UK. Yet the ACP says it is unsuitable in its current form to attain either the targets proposed in the Circular Economy Package (CEP) or meet the requirements of covering the net full or partial costs of collection, transport and preparation of waste packaging for reprocessing. It proposes a whole raft of

revisions. Concurrently WRAP is looking to the PRN system to reduce the environmental impact of the use and disposal of plastics. Some good ideas risk being drowned in the noise of the others.

It is ironic that the Packaging Regulations should come under so much scrutiny after they have achieved their targets whereas the producer responsibility systems for WEEE and Batteries, which have both failed to meet their targets in 2017, are continuing relatively unchallenged. Whatever happened to the adage: "If it ain't broke, don't fix it"?

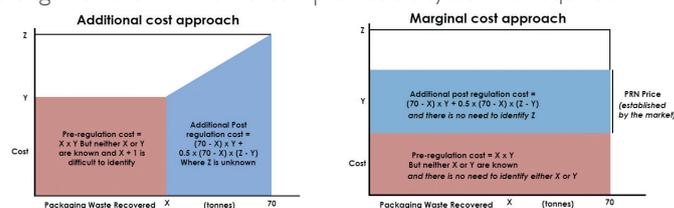
The future European targets look far more achievable once it is appreciated that preparation for re-use is included which will expand compliance opportunities. The PRN system has delivered significant growth in packaging recycling through a range of difficult global crises. There is no reason to believe that it will not continue to do so through the current China crisis. PRN prices are already adjusting to reflect the new targets and challenges based on the information available. Markets, some new, many old but historically under-utilised, are being found for paper and plastics packaging. It remains to be seen where PRN prices will finish in 2018.



Since the start there has been debate about whether the income generated from PRNs has arrived at the correct points in the system or whether producers are contributing sufficiently. Yet growth has been financed and achieved year on year. Some claim this is at the expense of domestic reprocessing but there is little to suggest that PRN income alone can influence the decisions of businesses to open or close in the UK. The steel industry has shrunk and recently expanded. Since 2012 so too has glass, paper and plastic domestic production. Contributory factors have been exchange rates, pensions and end markets for products as much as PRN prices!

PRNs are the evidence that reprocessing, either domestically or, to a broadly equivalent standard, overseas, has taken place. Their price reflects the full cost of the incremental growth required, all be it marginal to the overall cost. If the growth has been good and

supply is more than the required targets, then prices fall. Vice versa if availability is restricted, prices rise. Within any calculation of its value has been included not only the price paid for the secondary raw material but also the avoided cost of an alternative disposal route such as gate fees to landfill or energy from waste facilities. Responsibilities have remained with the waste holders at the same level as prior to the introduction of the regulations. If it is desired that producers should increase their responsibilities, the PRN can reflect that cost but first it must be decided what is required and how it is going to be distinguished from the price paid by the reprocessor or exporter for the secondary raw materials. The strength of the PRN is no complex audit system is required.



Other issues raised by the ACP are compulsory registration of all reproducers and exporters, reducing the de minimis level, establishing a communication fund, greater transparency and the creation of a development fund. While there may be merit in better coordination of communication, it is debatable whether this should all fall on the packaging sector that only represents 19% of the waste generated by households. Greater transparency should be considered to allay concerns of abuse. A first step could be for individual reproducers and exporters to declare publicly their PRN revenue and spend.

Questions remain on the benefits of reducing the de minimis. It is counter-intuitive to raise revenue by introducing a regressive obligation on small and medium sized businesses. The Agencies, who receive proportionally more revenue from those with small obligations than anyone else, currently struggle to prevent 'free riding'! Equally why should there be confidence in the success of a central development fund over current disaggregated PRN expenditure at delivering greater growth? There has been little success with public investments in the recycling industry to date. WRAP has suggested splitting the plastics obligation between polymer types in a similar way to the splitting of the metals or glass obligations. This may assist in both focusing producers and expanding plastic recycling in some polymer types but it will also increase the administration for producers. Some might feel that is a price worth paying.

Also within the CEP is a desire to encourage the use of recycled content and the recyclability of products. One suggestion is a reward system modulating obligations. Such suggestions should be treated with caution not only could it reduce the demand for PRNs with a consequent potential reduction in price but also the challenge is far wider than packaging and should therefore be grasped at that scale.

The CEP is not due to be confirmed until the summer. It will no doubt go through several twists and turns before then. The PRN system is simple and successful in achieving and exceeding its regulatory targets unlike the other UK producer responsibility regimes. Caution should be exercised lest the system be damaged through over-engineering. Another adage: "Don't jump out of the frying pan into the fire"!