

price  
**know-how**

2020 Review / 2021 Outlook

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[www.plastribution.co.uk](http://www.plastribution.co.uk)

# Welcome to price know-how

## A monthly publication looking at key factors that affects UK polymer markets.

The concept of a user friendly market report came from feedback about an article published in PRW (Plastics & Rubber Weekly) about the 2011 market outlook to which Plastribution made a significant contribution.

Whilst some price surveys currently exist they are often difficult to interpret, use foreign currencies, and differing units of measure. *Price know-how* aims to be relevant by providing an overview, material group specific reports and more general economic information including exchange rates and GDP growth.

To keep things relevant the report is in £ Sterling with tonnes as the common unit of measure.

The objective of the report is to form the basis of discussion about issues such as pricing and availability and so be a basis on which to consider purchasing strategies.

It is also believed that the report will support customers in explaining polymer price trends to their own customers, employees and shareholders.

As always we would welcome your feedback, and as ever your sales team is available to discuss your specific requirements.

The Plastribution Team

## Price know-how Glossary

### Monomers

C2 – Ethylene

C3 – Propylene

SM – Styrene Monomer

### Naphtha

Derivative from the crude oil refining process, which is then typically passed through a (Steam) Cracker to produce various feedstocks including C2 and C3.

### Force Majeure (non-legal definition)

Since accepting an order circumstances outside of the supplier's control, and which could not have been foreseen, now prevent the supplier from fulfilling the contract either in part or in full. By declaring Force Majeure the contract is to supply is cancelled.

## 2020 Review

It is appropriate to start with two quotations from the prior year's edition of this article.; at the end of the 2020 outlook the following statements were made:

**"In addition to the expectations outlined above, there will of course be the 'unexpected' events to contend with."**

Along with:

**"PP prices are very likely to depend upon the supply/demand balance and here sectors such as automotive and white goods are likely to be of significance."**

Of course, the unexpected event was the Coronavirus pandemic, and whilst this was not a 'known known', it probably fell into the category of being a 'known unknown', although for many of us who have previously witnessed the scares around SARS and Asian Bird Flu the general consensus at the start of 2020 was that the issues that had already been prevalent in China were unlikely to manifest themselves in a subsequent shock to the global economy that few could have even contemplated.

For UK polymer converters the pressing issue at the beginning of 2020 was the likely end to the Brexit fiasco, which had been ongoing since the referendum result at

the end of June 2016 with the decision to leave the European Union. By the end of January, the UK Government had taken its perceived mandate to 'Get Brexit Done', won a parliamentary vote and entered into a transition period, with a timetable to leave the EU27 by January 31st at 11.00 p.m. Despite an opportunity, up until the end of June, to extend the transition period neither side waived from the original program, and as negotiations became increasingly affected by Covid-19 related issues, it almost became inevitable that the deadlines would pass. The last resort was an agreement made immediately before Christmas which ensured that goods could move between both regions without the imposition of import duties. The main impact of the trials and tribulations of the Brexit process was upon exchange rates with particular volatility against the Euro.

As the first quarter of 2020 got underway, Northern Italy became a hotspot for Coronavirus. It was subsequently became clear that this was an issue which could create mayhem within the global society. A graphic visualization of the situation that then ensued can be seen in the 'Feed Stock GBP' graph in which the price of all contract feedstocks plummet between March and April. This unprecedented, significant and sudden shock to some extent acted as a safety valve, passing the economic pain to those who were better able to absorb the financial impact and providing downstream

converters with an opportunity to improve margins on what volumes were available. That assistance was not evenly distributed, and it was the packaging and healthcare sectors that benefitted most due to the high demand for those products.

More or less, it became a buyers' market as polymer producers tried to balance supply with demand, in many cases long supply chains took time to adjust to perceived demand; a situation that has been illustrated by the challenges that the global shipping industry has also faced.

During this time, it is notable that European prices fell to levels below other regions in the World, and long before demand picked up in Europe the prices and demand in other markets moved forward. Given the uncertainties resulting from Covid-19, this somewhat unusual situation on pricing, was sustainable whilst there was sufficient material. It was not until late November that the tightness of the European market started to become apparent and any requests for additional volumes typically could not be fulfilled and with this the realization that the sellers would soon have control of the market. And so, the year ended with the prices being increased in December which is rather exceptional and another reason why 2020 was unprecedented.

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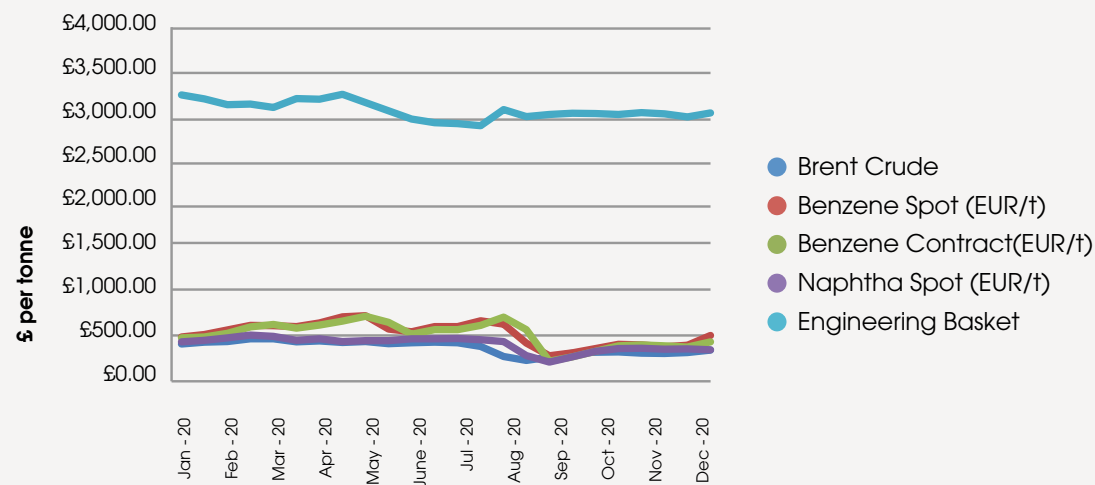
# Engineering Polymers

Data provided by PIE  
www.pieweb.com

For Engineering Polymers the soft market conditions that were prevalent at the end of 2019 persisted and the expectation was that prices would continue to gradually reduce in this range of materials; a trend supported by the high margins of these polymers above feedstock costs, as a result of which prices are more affected by global economic conditions and most importantly the confidence of consumers to invest in big ticket items such as automobiles and white goods.

As the realities of the pandemic started to become apparent in Western Europe and the USA during the first quarter, this group of materials was both heavily exposed to demand for these consumer durables and also affected by long supply chains with limited flexibility.

As it came towards the end of the year it became apparent that the adjustments made to correct the supply/demand balance coupled with restrictions in the global shipping industry had resulted in undersupply and even in spite of relatively poor demand from OEMs, the market went tight, and prices have started to move up.

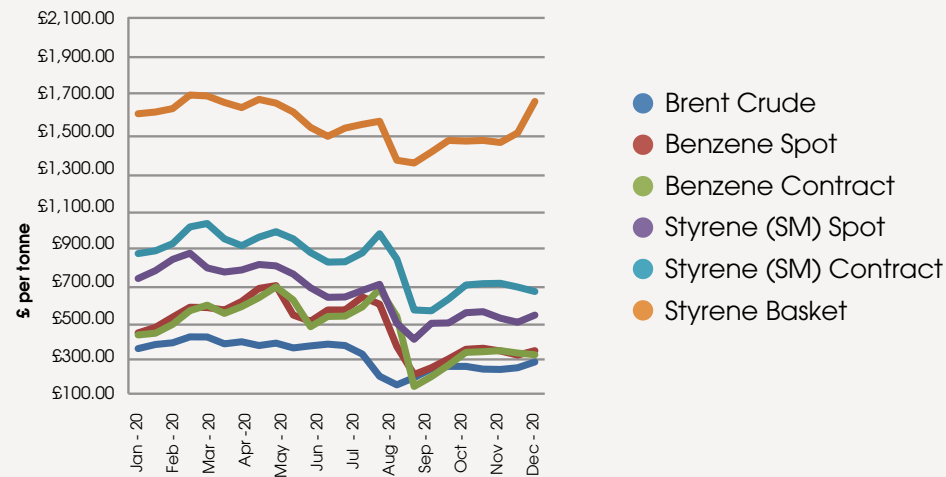


# price know-how Styrenics

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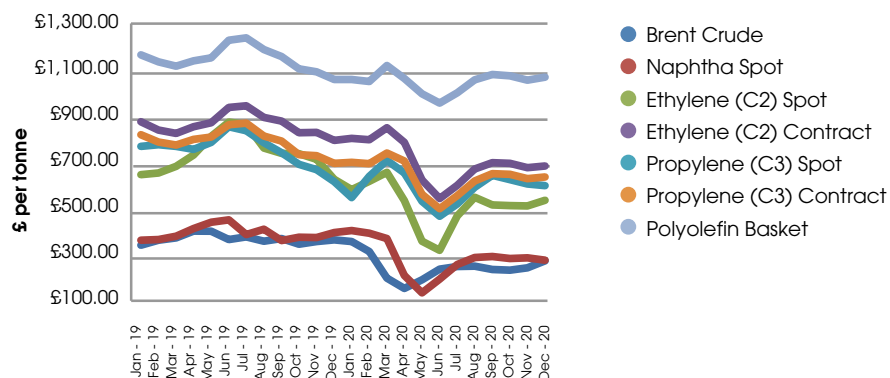
The market situation for Styrenic Polymers was for most variants very similar to the situation in Engineering Polymers, where for types other than PS there was a tendency to softening through Q1, followed by more extreme deflation at the beginning of Q2.

The recent uptrend in prices started about a month earlier than in Engineering Polymers. The PS markets continued to be much more volatile, which largely is due to HIPS and GPPS being a more local market and dependent upon relatively few suppliers, where outages have a significant impact on regional pricing.



# price know-how Polyolefins

Data provided by PIE  
www.pleweb.com



It was an interesting period in terms of Polyolefin pricing and the initiatives at the beginning of 2020, driven by feedstock cost increases, were moderately successful, a situation that was entirely reversed at the start of Q2 when the effects of the Coronavirus started to impact. It was then that the combined factors of increased PE demand for film and bottles and the reduction of supply from the US, due to the impact of hurricane damage, resulted in upward price movements; to a large extent these were feedstock driven as feedstock became scarce as crude oil refiners dropped operating rates to match output with reduced demand for transport fuels.

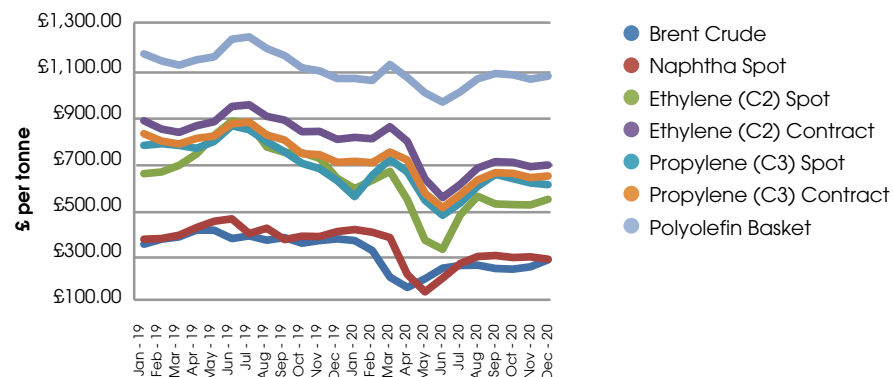
PP was a somewhat different story and a reliance on end use applications in automotive and white goods sectors left this market well supplied. The end of the year saw significant calls for price increases on both PE and PP as markets continued to tighten.

In terms of price volatility for UK buyers this was similar to 2019, although as the Euro Volatility suggests, it was less related to Euro:GBP exchange rates. It is also notable that the average price was the lowest in the last decade and second lowest to the notorious year of 2015, which recorded much more significant volatility.

	Min	Max	Average	Range	GBP Volatility	Euro Volatility
2011	£1,083.86	£1,254.28	£1,254.28	£170.42	14%	17%
2012	£996.99	£1,296.36	£1,190.35	£299.38	25%	24%
2013	£1,178.07	£1,312.98	£1,252.85	£134.91	11%	10%
2014	£1,075.70	£1,251.19	£1,182.12	£175.50	14%	11%
2015	£879.41	£1,247.39	£1,088.53	£367.98	34%	38%
2016	£1,071.30	£1,239.74	£1,157.95	£168.44	15%	10%
2017	£1,174.96	£1,289.37	£1,247.21	£114.41	9%	9%
2018	£1,231.36	£1,303.88	£1,266.78	£72.51	6%	8%
2019	£1,083.50	£1,266.89	£1,174.44	£183.39	16%	9%
2020	£978.78	£1,144.82	£1,072.74	£166.04	15%	13%

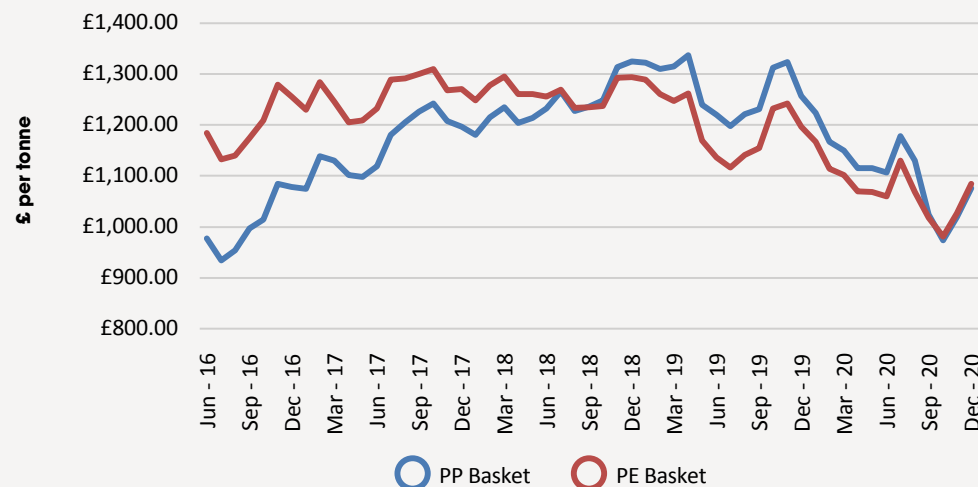
# price know-how Polyolefins

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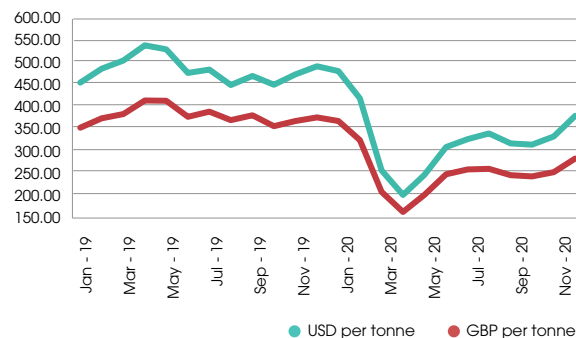
The relative pricing of PP and PE is of note and the weak pricing of PE in the period from the end of 2018 through until September 2020 is largely related to the influx of PE from the USA over that period.

This material supply largely dried up in the second half of 2020, both as a result of limited US export volumes and the relatively low pricing in Western Europe. In fact, following the impact of two major hurricanes and strong demand for PE film and bottles from Covid-19, the USA market was extremely tight and prices increased significantly.



# price know-how Brent Crude Oil

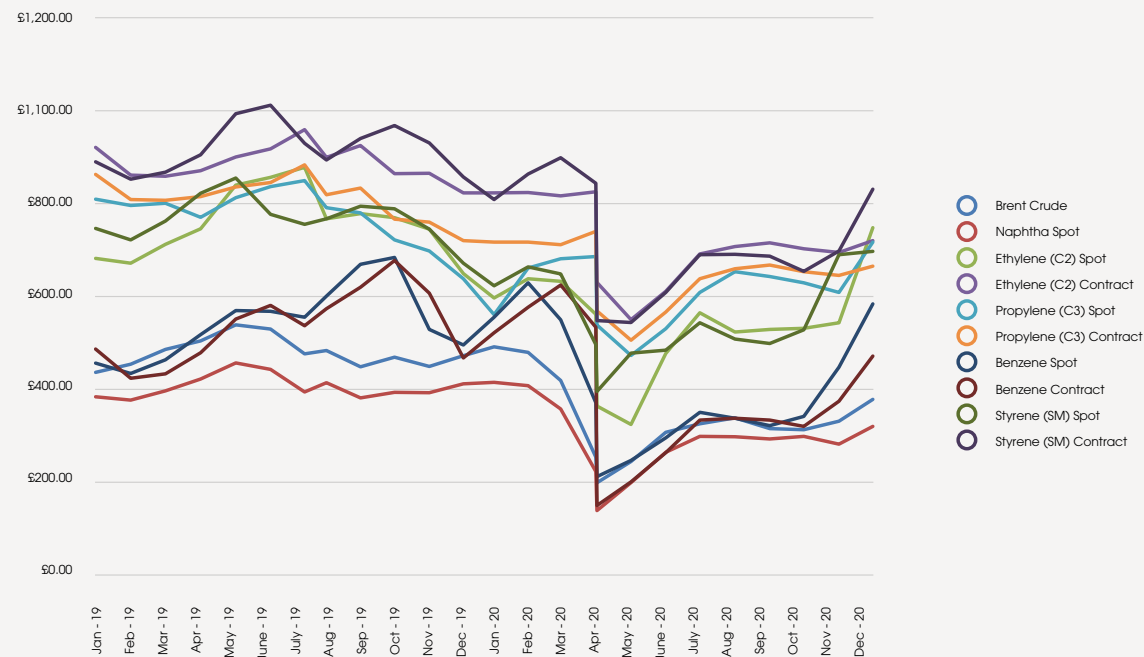
Data provided by PIE  
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Crude Oil markets are highly sensitive to geopolitical events and were showing signs of nervousness even at the beginning of the year and come February prices started to plunge. In a similar situation to the polymers markets, buyers took control and remarkably managed to drive futures prices negative at one point in the USA. Gradually actions have been implemented to restore more balanced market dynamics and towards the end the year prices were tentatively moving upward.

The feedstock graph not only displays the drama of the price crash for petrochemical feedstocks at the end of March, but it also clearly displays that the spot markets were already reacting to the price of crude oil and the concerns surrounding the pandemic. It also shows that December prices are still below the pre-virus levels.

Feedstock GBP per Tonne



# price know-how Exchange Rates

Data provided by PIE  
www.pleweb.com

The currency action was dominated by Brexit in the case of the GBP and the Euro, in which the anticipated parliamentary vote to leave resulted in a small uplift, followed by decline as the issue of 'negotiating the easiest trade deal in history' proved to be more difficult than expected. The USD weakness came from a combination of concerns about the impact of Coronavirus on the USA economy and the impending US presidential election. The legacy of the UK Brexit referendum appears to have a lasting effect, with the relative value against the Euro at pretty much the historically low.

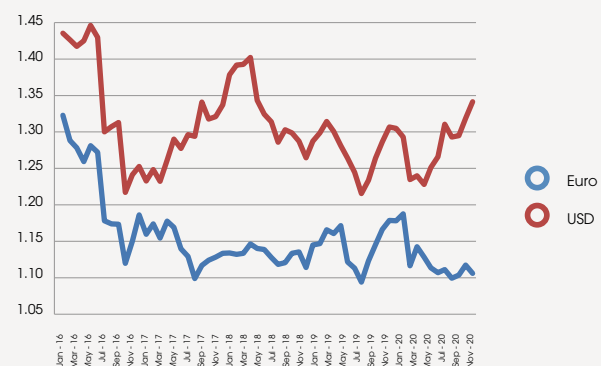
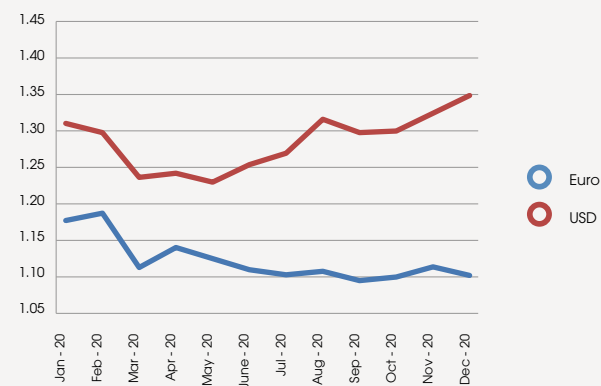
On the back of the UK Government's decision to impose some of the tightest restrictions during the first lockdown, with sectors such as Construction and Automotive shut for up to 3 months the UK economy fared relatively worse than the other economies in the G7. Whilst employment levels remain quite stable, consumer confidence is lacking in both the both automotive and non-food retail sales sectors.

CPI Inflation fell back from 1.3% at the end of 2019 to around 0.3% at the end of 2020, on the basis of which The Bank of England took the unprecedented decision to reduce interest rates to just 0.1% in an attempt to stimulate the economy.

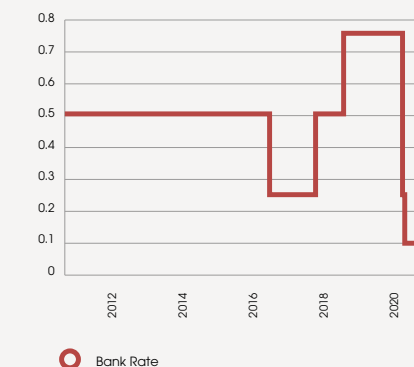
There was some anecdotal evidence that the end of the BREXIT transition period led to less competition from Europe, as many players awaited the outcome of the trade negotiations, before deciding upon their future sales strategy.

Whilst the number of face-to-face business meetings, including at exhibitions and other industry events, was highly curtailed other communications tools came to the fore and the plastics market remained liquid and dynamic.

## Exchange Rates



## Official Bank Rate



(Source Bank of England <https://www.bankofengland.co.uk/monetary-policy/the-interest-rate-bank-rate>)

## 2021 Outlook

The New Year is already off to an interesting start, with the increases implemented in December now being supplemented with a fresh round of significant price hikes about which polymer producers are very much adopting a 'take it, or leave it approach' confident in their view that prices will once again advance in February. For the UK the issue of pre-Brexit stockpiling coupled with the order demographic in January which is a month where there tends not to be a surge at the beginning and the order books build more gradually, will make this a tense month as buyers and sellers await the outcome on demand. Whilst the UK, and many other European countries, find themselves in the midst of another lockdown, the impact of these new restrictions are less likely to have an impact on demand as sectors such as construction and automotive will not be shuttered.

Of great significance will be the widespread vaccination of the UK, and global, population and how that might enable a 'new normal' in which demand should become more stable, and with that more ability to match supply. Whilst this will not eliminate sources of volatility, it is likely to remove a major cause. On this basis 2021 is likely to become a more stable situation in which the price volatility witnessed in 2020 is less likely to be repeated.

On a more practical level it looks like there is still some headroom for C2 and C3 feedstock losses to be regained, particularly given that petrochemical economics at the beginning of 2020 were not too spectacular.

Looking further afield, whilst polymer prices in the USA continue to increase, the markets in Asia prices are facing some downward pressure as the lunar new year approaches and demand diminishes in anticipation of seasonal holidays.

	C2	C3	SM	Benzene
Feb 2020	0.00	0.00	50.00	63.00
Mar 2020	(50.00)	(20.00)	(126.00)	(147.00)
Apr 2020	(200.00)	(175.00)	(315.00)	(424.00)
May 2020	(100.00)	(80.00)	(13.00)	55.00
Jun 2020	60.00	60.00	64.00	67.00
Jul 2020	84.00	75.00	86.00	76.00
Aug 2020	21.00	27.50	4.00	6.00
Sep 2020	0.00	0.00	(13.00)	(9.00)
Oct 2020	(10.00)	(12.50)	(33.00)	(13.00)
Nov 2020	0.00	0.00	58.00	65.00
Dec 2020	20.00	15.00	139.00	103.00
Jan 2021	65.00	65.00	108.00	165.00
Cumulative	(110.00)	(45.00)	9.00	7.00

An interesting consequence of the Coronavirus pandemic is that society has started to see the importance of plastics in key applications such as healthcare and food packaging and this has obliterated some of the negative pressure that particularly plastics in single use applications was being placed under. Whilst it is unlikely that legislative tools such as the single use plastics packaging tax will change, ultimately it will be the choices of consumers that will determine most uses and applications.

Geo-politics are likely to have some influence. In particular a new Democratic regime in the White House, is likely to both impact US domestic politics and bring a fresh approach to global relations, almost certainly for the better of all.

## 2021 Outlook

Here in the United Kingdom the economy will enter its post-EU27 phase, with much still to do and come as the country finds its new position in the world. So far, the economist view is that the UK will fare less well outside of Europe, although even if that is true it is unclear as to if that will also apply to the manufacturing sector and the plastics industry contained within it. If 2020 taught us one thing, it was to expect the unexpected, and the UK plastics processing sector is well positioned to adapt itself to the form that the post-Brexit UK economy adopts.

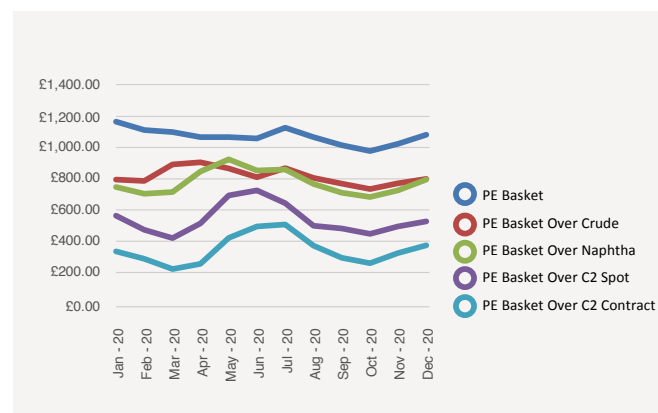
The outlook for Engineering Polymers looks quite positive and a tendency towards improving margins will be of relief to producers. The relatively long supply chains for materials such as PC, POM and PBT need to be carefully managed to ensure that supply and demand are well matched. Supply of PMMA and PC for use in protective screens might be an area to watch carefully, although demand is likely to be robust throughout 2021.

The Styrenics Polymers group including polystyrene and ABS is likely to remain volatile with benzene and consequently styrene monomer prices being a driving force. ABS pricing in Asia appears to be softening in Q1, but again Europe's dependency on imports from Asia will require supply chains to be carefully managed.

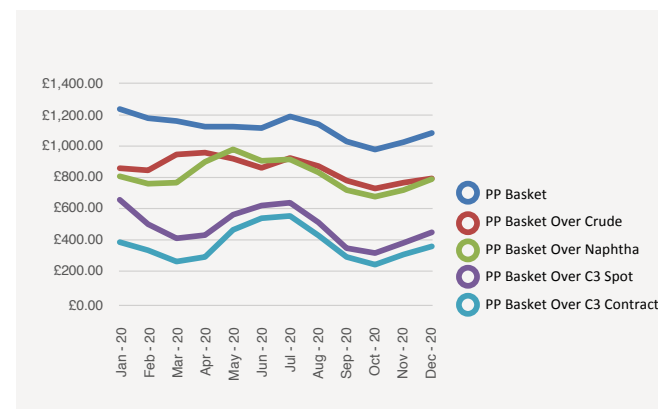
The most significant factor that will continue to impact the Polyolefins Sector will be the ability of the markets to absorb increases in global output, with further plants scheduled to on-stream and back on stream in 2021. PP is likely to be less exposed to volatility due to the relatively specialised nature of the European Market.

The effect of US supply is likely to depend upon the price of crude oil and the relative price of producing the shale gas alternative.

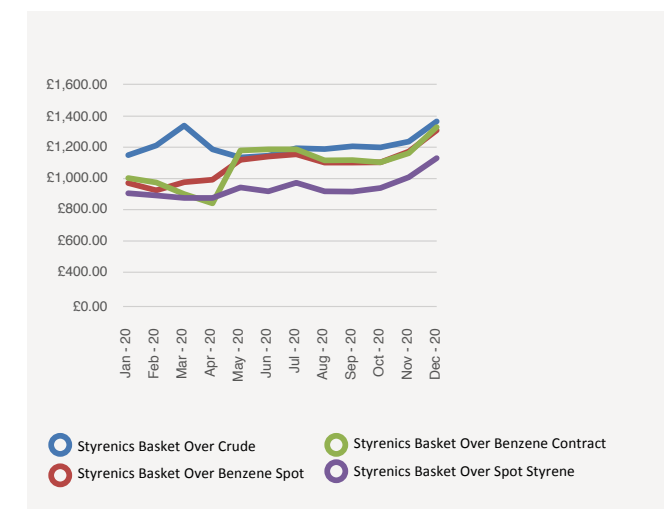
### PE Basket Spreads



### PP Basket Spreads



### Styrenics Basket Spread



## 2021 Outlook

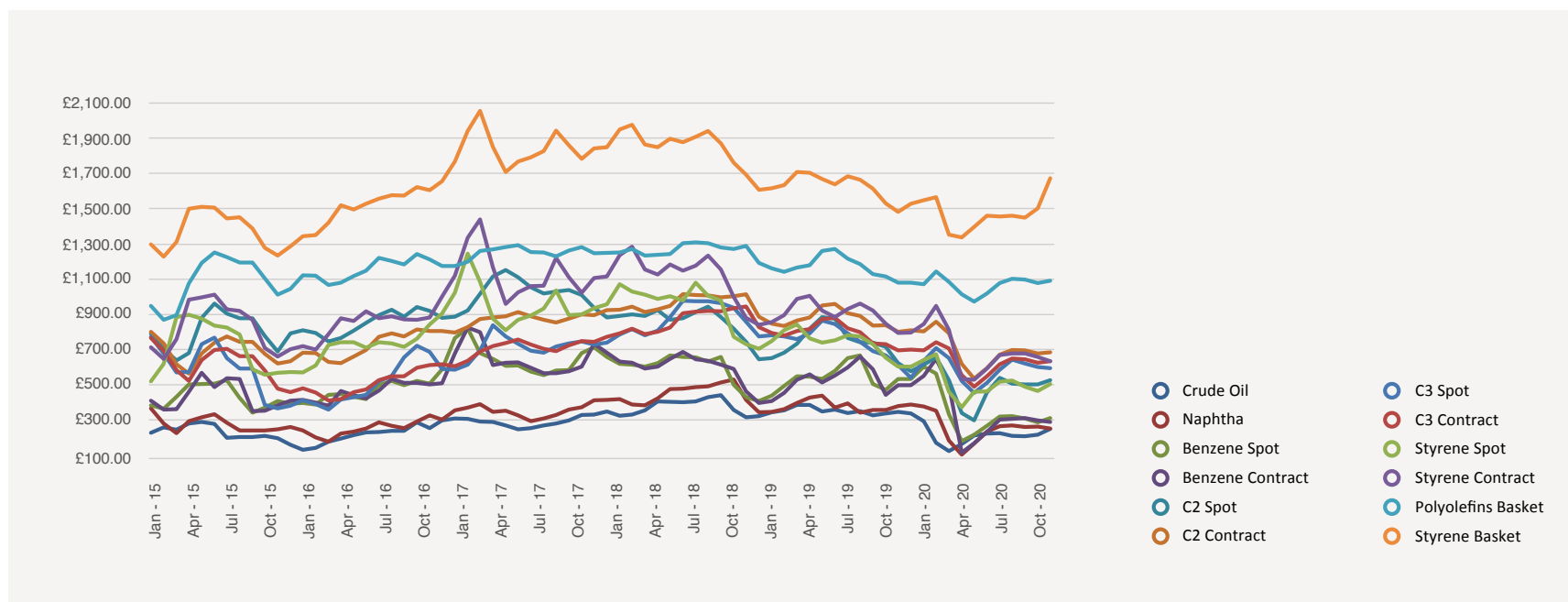
The graph below clearly depicts the strong historic correlation between oil, feedstock and standard polymers pricing. The 2015 period continues to look exceptional with a 'normal' relationship restored since about October 2016.

In addition to the expectations outlined above, there will of course again be the risk of unexpected events to contend with. However, we hope to repeat the fairly reliable forecasts that provided in prior years and so

enable you and your business to be better equipped to deal with the challenges of sourcing your polymer raw material requirements in the year ahead. Please remember that you can opt to receive monthly editions of 'Price Know-how' free of charge and the team at Plastribution is always on hand to discuss your specific requirements.

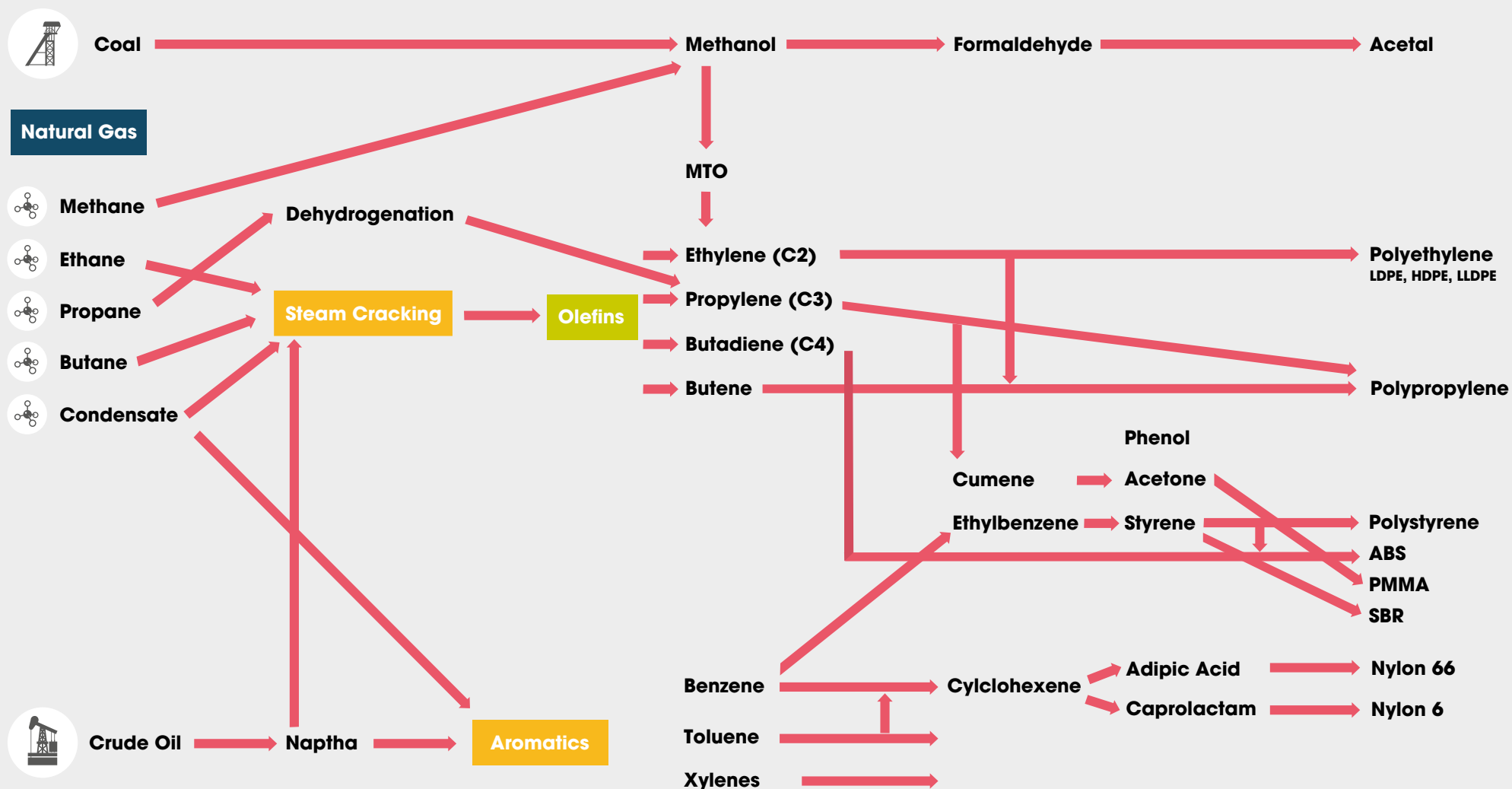
Data Courtesy of PIE

### Combined Graph



# From Hydrocarbons to Polymer

A simple diagram explaining the production routes from the major hydrocarbon sources through feedstock to the most common polymer groups.



# Main drivers of polymer prices

## Feedstock

- Oil
- Gas
- Shale
- Naptha

## Polymer Producers

- Monomer Pricing
  - Styrene
  - Propylene
  - Ethylene
  - Benzene
  - C4
- Polymerisation Margins
  - Inventory
  - Planned & un-planned outages

## Market

- Currency
- Short term demand
- Short term reductions in capacity
- Arbitrage of Polymer
- China & SE Asia supply/demand
- Trader Activity

## External Factors

- Political
- War
- Natural Disaster
- Changes in consumer markets
- Geographical shifts in supply/demand

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**Mike Boswell, Managing Director, Plastribution**



# Methodology

This report is produced based upon the following fundamentals: -

- EURO based pricing for feedstock and polymer pricing
- Conversion of Euro and USD based prices at prevailing exchange rates
- Product baskets weighted according to UK consumption

## Acknowledgements

We would like to thank the following organisations for their support in producing this report: -



PIE (Plastics Information Europe) [www.pieweb.com](http://www.pieweb.com)

HM Treasury [www.hm-treasury.gov.uk](http://www.hm-treasury.gov.uk)

## Disclaimers

The information provided in this report are based upon data available from both external and internal sources, and whilst care is exercised in producing this report we give no guarantee of accuracy.

Furthermore we accept no liability for purchasing decisions based upon the information provided as the petrochemical market is complex and volatile.

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