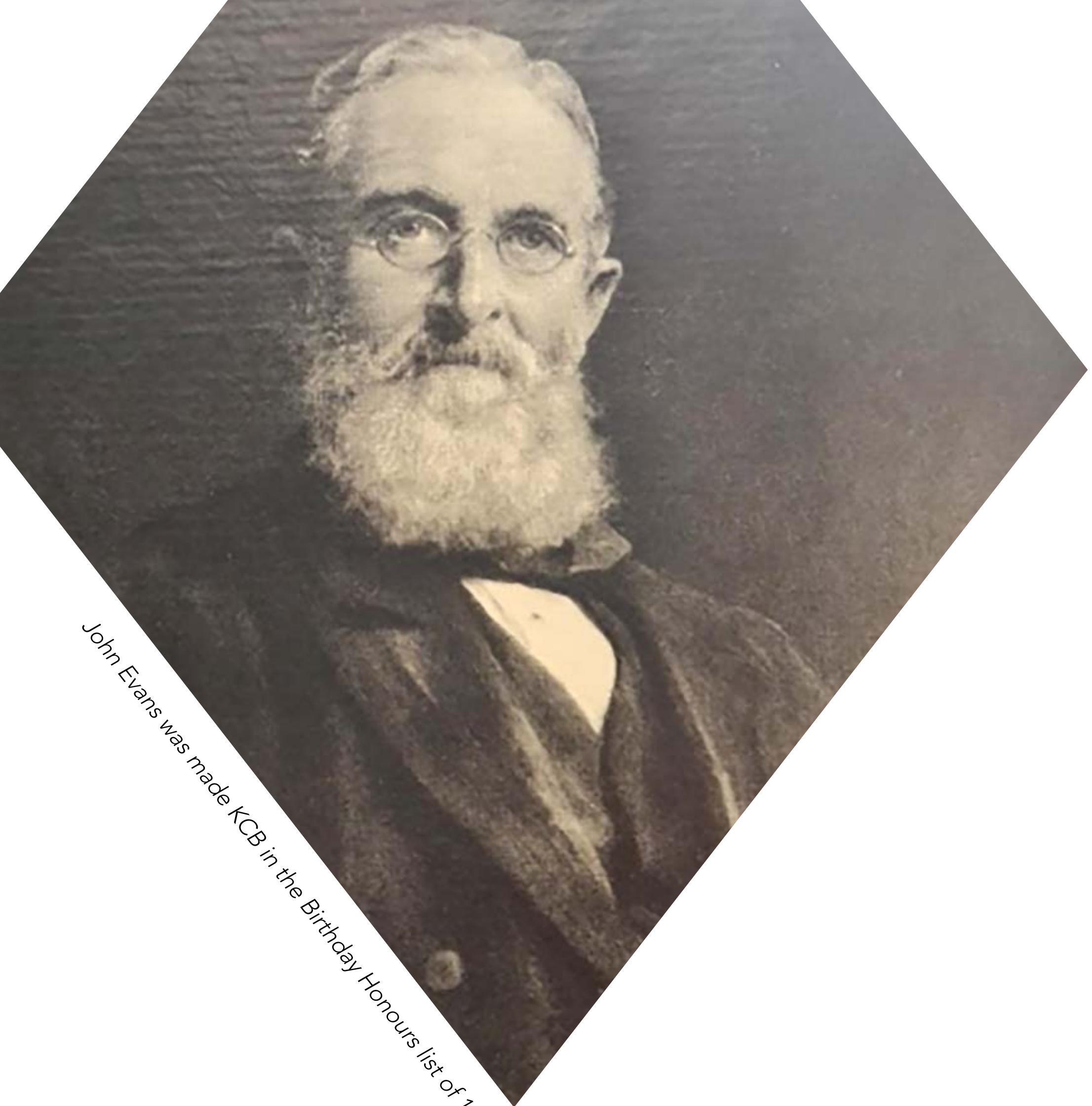
cpi confederation of paper industries

2021-22 ANNUAL REVIEW

CELEBRATING 150 years



John Evans was made KCB in the Birthday Honours list of 1892

A STORY STILL UNFOLDING…

How it began

In April 1840 at the age of 17, John Evans started work at Dickinson Paper Mill, owned by his uncle John Dickinson.

He became a partner in the business in 1850, and later took control of the mill. The industry then suffered a serious scarcity of rags, and anxious papermakers were having to pay extortionate taxes on foreign rags to make paper. Sir John Evans set about finding a substitute raw material and soon became a large producer and user of esparto pulp which made him a central figure in the industry.

In Spring 1872, disturbed by the increasing costs of coal, chemicals, and wages, paper mill owners unanimously agreed that a united effort should be made to defend the interests of the Paper Industry.

John Evans sent a circular to all papermakers in Britain to call them together 'to form a national association for mutual protection'.

More than 100 UK mill owners attended this meeting, where John Evans said that the proposed association would bring together all sections of the trade, and it would promote a mutual feeling of friendship and confidence.

….and so, on 29th October 1872, at the Terminus Hotel in London, the nucleus of The Paper Makers' Association of Great Britain and Ireland came into being…..

"From Rags to Riches"

The phrase "from rags to riches" originated during the 18th century when the price of rags soared with the invention of the printing press and subsequent increased demand for paper.

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THE VOICE AND FACE OF THE UK'S PAPER-BASED INDUSTRIES

The Confederation of Paper Industries (CPI) is the leading organisation working on behalf of the UK's Paper-based Industries. CPI's membership includes the overwhelming majority of the supply chain for paper, comprising paper and board manufacturers and converters, corrugated packaging producers, makers of soft tissue papers, and collectors and processors of paper for recycling.

CPI represents an industry with an aggregate annual turnover of £12 billion, with 56,000 direct and a further 93,000 indirect employees. Members range in size from large multi-national organisations with multiple sites in the UK, to single site SMEs.

CPI unites the UK's Paper-based Industries with the purpose of promoting paper's intrinsic value as a renewable and sustainable fibre-based material, enhancing its competitiveness through seeking appropriate legislation and regulation for the industry and in spreading best practice.

CPI is working to promote:

- a positive image for paper
- secure energy supplies at competitive prices
- resource efficiency within a coherent waste strategy
- the benefits of packaging
- a sustainable UK Paper Industry
- manufacturing as a vital part of a balanced economy
- a competitive, level playing field for the UK's Paper-based Industries

150th ANNIVERSARY

CPI is pleased to present this 150th Anniversary edition of its 2021-22 Review. We have expanded the scope of the Review to include a historical perspective, a sense of the future challenges for the industry, and some specially commissioned photography of the industry today. We hope you enjoy reading this special edition and look forward to working with you for the next 150 years!

cpi confederation of paper industries

PAPER - THE SUSTAINABLE, RENEWABLE CHOICE

MINISTERIAL FOREWORD

I am delighted to be able to write this Foreword to the 150th Anniversary Annual Review of the Confederation of Paper Industries. Congratulations to all at CPI and to the UK's Paper-based Industries for their long-term success in a rapidly changing world.

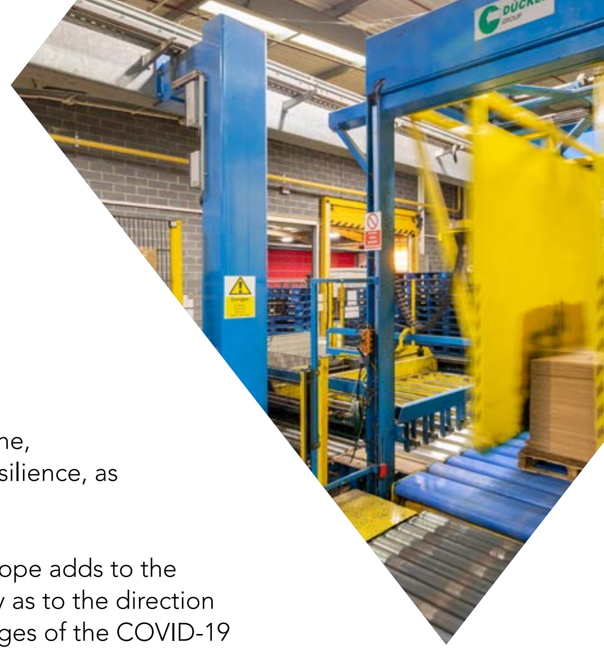
I have met a number of paper industry representatives in recent months, and I am always impressed by the collaborative way in which they work and their determination to meet both current and future challenges. I particularly admired the way that the industry rose to the challenge of COVID-19, continued its operations and worked across the supply chain to support the NHS, food deliveries and huge changes in retail distribution during the pandemic.

This industry has come a long way in 150 years. The paper products of today and the processes by which they are made are vastly changed. This process of continuous improvement and innovation is visible today in papermaking's 72% cut in carbon emissions since 1990, an achievement of which it can rightly be proud.

The UK's Paper-based Industries are an essential part of everyday life and I cannot imagine a world without paper, recyclable boxes and books, magazines and newspapers. The industry has a key role to play in the next set of challenges and opportunities which we will face together.

Lee Rowley MP
Parliamentary Under-Secretary of State for the Department for Business, Energy and Industrial Strategy (BEIS)

PRESIDENT'S FOREWORD



Welcome to the CPI Annual Review 2021–22.

At the time of writing, the Russian invasion of Ukraine is in its sixth week. The invasion is a devastating blow for the people of Ukraine, and we have all been moved by their suffering and resilience, as millions are now displaced across Europe.

The re-emergence of extensive military conflict in Europe adds to the recent picture in the UK of turbulence and uncertainty as to the direction of the economy and society. The overlapping challenges of the COVID-19 pandemic and Brexit have also had far reaching effects and this new war is further hampering the recovery of the real economy.

Here the picture is mixed. Consumers are facing a cost of living challenge with energy prices, food prices, and interest rates in the spotlight, and Government's response has been unable to mitigate all of the negative effects. Brexit continues to alter trade and add friction to cross Channel movements, while labour shortages and supply chain disruption remain challenging. Conversely, unemployment is low and there is no clarity as to whether the challenges the economy now faces are temporary or long lasting.

One thing that the pandemic has shown is the importance of paper and its products to the proper functioning of our society. All the products we produce, from hygiene tissue to food packaging, graphics paper to specialty products, have shown themselves to be essential to how people live their lives today.

I was delighted to be elected as President last year. I am looking forward to serving you, the members of CPI, in any way I can. I am working with the CPI team to set out priorities for the future and I will report on those in next year's report. I am also hugely honoured to be CPI's President during this 150th Anniversary year of the founding of the original UK trade association for the paper sector. You will see in the Annual Review some spectacular images taken as part of the Anniversary celebrations and I hope that you will be able to join us at the CPI Biennial Health and Safety

Conference in June to view the Anniversary exhibition in full.

The Conference takes place on 27th and 28th June 2022. As in previous years, the theme is largely based on the improvement of health and safety within the industry. I want to draw all our attention to the continued importance of health and safety improvement and to urge you all to redouble your efforts especially with regards to the management and leadership required to drive change. For much of the 21st Century, the health and safety story for the industry has been one of continuous improvement, but now the low hanging fruit has been picked, and what remains is the much harder task of reforming industry culture. We need to follow the PABIAC programme as well as to engage with HSE and Union colleagues to ensure that our tripartite approach continues to drive change. I look forward to seeing you at the Conference and to continuing our work on this most vital of issues.

Our industry is much affected by the cost of energy. The recently published British Energy Security Strategy offers some hope that, having listened to the evidence that CPI and the other energy intensive industries have presented, the Government will act to moderate the impact of long term high energy prices on UK industry. The current position represents a major challenge to UK competitiveness. UK industry risks being left in the no man's land between today's accelerating costs of gas and the availability of viable alternatives in the 2030s.

Other countries are smoothing this transition and socialising the risks while the UK has placed these costs on business. This is a recipe for continued investment leakage out of the UK and the further offshoring of industry, costing UK growth, jobs, and the very tax receipts that the Government says it desperately needs.

Moreover, it is also self-defeating in global carbon terms. Shrinking UK industry might reduce UK territorial emissions, but it will increase the proportion of UK consumption emissions accounted for by imports. The UK will become a passive taker of the emissions policies of others, rather than leading the way by showing how a net zero industrial base can flourish.

As part of the transition to net zero, the availability of a sustainable skilled workforce will be a significant part of the jigsaw. The Paper-based Industries have much to recommend them, the material itself is renewable and recyclable and it can and does substitute for many fossil-based materials in a wide range of applications. I was therefore very pleased to learn that the UK Apprenticeship Standard for Papermaking is restarting, and I look forward to seeing new entrants into the workforce as a result. This initiative will build on the already considerable efforts of CPI's members to train and develop their workforces. The industry needs new skills to grow our businesses and in particular to develop our offering into the net zero compatible circular bio-economy. Much has been said in recent months about "levelling up" and what better way to do that than to give young people from across the nations and regions of the UK the opportunity to acquire skills and long lasting employment in our industry in the regions in which they were born and live.

There are many people to thank for their support in the delivery of CPI's objectives. I am particularly indebted to my fellow CPI Board and Council members, and the members of CPI's sectoral Councils and committees for their support and contribution over the year. CPI simply could not function without the engagement and contribution of such a wide spectrum of its knowledgeable and committed members to its work. On behalf of all CPI members, I would also like to thank the team of CPI staff for their work throughout not only this year, but during the pandemic period as a whole. CPI is fortunate to have such a dedicated group of experts at its disposal, and throughout this report you will read the significant achievements that they have made over the year.

Stewart Begg, *President*

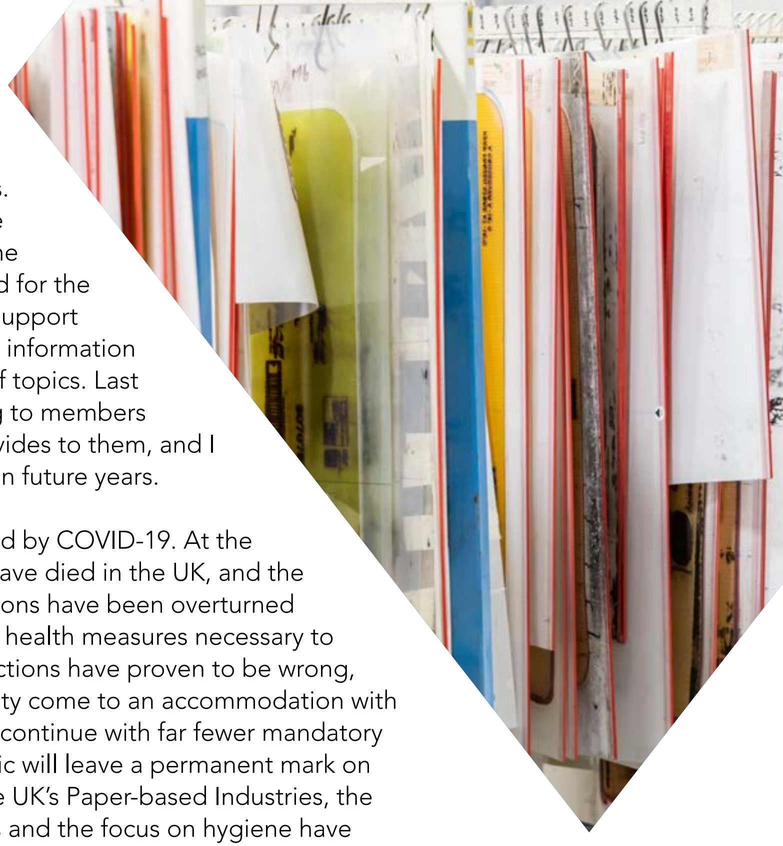
DIRECTOR GENERAL'S OVERVIEW

This year, CPI celebrates the 150th anniversary of the founding of the original trade association for this sector, The Paper Makers' Association of Great Britain and Ireland. A century and a half of continuous representation of such a vital industry is a significant achievement, and I congratulate all its members for their longevity and their long history of collaboration for the greater good. This edition of the CPI Annual Review is larger than normal, and alongside the usual review of the Confederation's activities, you will see specially commissioned photography of the industry together with articles on both the industry's history and its future potential. I trust that you will enjoy reading it!

2022 has dawned in a situation of global economic uncertainty. At the time of writing, UK inflation is at its highest for 30 years, squeezing living standards for many. The co-ordinated restart of global economies has also affected industrial sectors with energy, raw materials, and labour pricing and availability all tightening as the whole world wants the same things at the same time. Alongside and reinforcing these economic uncertainties is the war in Ukraine, and the consequent revival of severe East-West tension in Europe.

In this renewed atmosphere of volatility and risk, trade associations show their worth, as they have done over the previous decades. Our ability to inform members, critique policy, and advocate for the industry interest makes a strong association essential to the ongoing development of the UK's Paper-based Industries. I hope that you will see from the information in this report exactly how we do this and what outcomes we achieve.

Last Autumn, your Board agreed a plan to cover the operation of CPI from 2022 to 2025, a period of four years. As well as the ongoing work of the organisation, this Strategic Plan sets a course for CPI and the industry to work on two interlinked areas of great importance, enhancing industry skill levels and improving the attractiveness of the industry within the labour market. In doing this, we aim to build the society-wide reputation of the industry as sustainable and as a good employer, while at the same time improving member access to a pool of skilled labour, labour which will be needed as the industry pursues its transformation towards the goal of net zero. I look forward to being able to report to you all about the progress we have made in future years.



It is important that we make such progress, and important that we report on it transparently to members. I have always been proud of the value that CPI gives to its members, from the many tens of millions of pounds saved for the industry each year on energy, to the support we give on health and safety, and the information and guidance across a whole range of topics. Last year, we began a process of reporting to members individually on the value that CPI provides to them, and I look forward to continuing that work in future years.

2021 was a second year overshadowed by COVID-19. At the time of writing over 160,000 people have died in the UK, and the lives and livelihoods of countless millions have been overturned by both the pandemic and the public health measures necessary to slow infection. Many pandemic predictions have proven to be wrong, but I hope that this year will see society come to an accommodation with the virus, such that people's lives can continue with far fewer mandatory restrictions than before. The pandemic will leave a permanent mark on us all, and from the perspective of the UK's Paper-based Industries, the changes in consumer buying patterns and the focus on hygiene have wide ranging impacts, especially on the corrugated and tissue sectors. The industry has responded magnificently to the challenges of COVID-19 and has shown again how essential its products are to the functioning of society.

While much attention has rightly been focused on COVID-19, the trade issues resulting from the Brexit Trade and Cooperation Agreement (TCA) have not gone away. It is clear that the impact on the UK's trading patterns will be long lasting – with a projected long run reduction of 15% in UK imports and exports as trade with the EU is now subject to customs and other controls. It is also clear that while trade with other nations will grow more quickly, it is unlikely to make up the difference. For members, there are clear potential issues in the movement of both raw materials, finished products, and recovered fibre for recycling. The bill in terms of increased administrative costs runs easily to the tens of millions of pounds per year, and this coupled with the increased political risk inherent in a "third country" trading relationship with our geographically nearest market is a further potential investment drag.

CPI continues to work closely with the UK Government, and to support members where necessary on Brexit trade-related issues. At the time of writing negotiations continue between the UK and EU on the Northern Ireland Protocol and we all hope that an enduring resolution to those issues can be found. CPI is also an active and engaged member of several European trade associations and we continue to work closely with our partners in the EU member states and beyond to promote the interests of the Paper-based Industries and to develop good practice that can be shared by all. In particular, we are also active in the International Council of Forest and Paper Associations and the United Nations Advisory Committee on Sustainable Forest Industries. Engaging with both of these global organisations gives CPI a further opportunity to promote the interests of our industry and participate in the development of global standards.

2021 has seen an unprecedented increase in the costs of energy in the UK and more widely across Europe, a cost increase that, while it falls most intensely on papermaking, is felt by all parts of the industry to some degree. There are many drivers to the cost increases, and CPI's focus together with that of Energy Intensive Users' Group colleagues, has been on pressing Government to address the UK's self-imposed policy costs that have made the situation in the UK worse than it might otherwise have been. We have had significant engagement with Government, notably with Ministers in BEIS, and the recently published British Energy Security Strategy gives some grounds for optimism about future action to mitigate these extraordinary costs.

Stepping back from the detail, our concern is twofold:

- The Government threshold for action seems to be imminent closure of an industry with associated interruption of consumer-facing supply chains. This completely ignores the subtle nature of the cumulative burdens that have been placed on business and the damage that this does to long term competitiveness and foreign investment.
- Government policy seems to be one of making UK carbon emissions the most expensive in the world, but as viable alternatives to fossil energy sources will not be available until 2030 at the earliest, it risks a lost decade of decline, which is not faced by competing industries in other countries.

So again, we call on the Government to pull on the levers of policy that it has at its disposal, such as the UK ETS Cost Control Mechanism, in the service of assisting UK manufacturing industry, including the paper sector, to go through the energy transition in a strong position to attract much needed investment.

One further issue that has re-emerged in 2021 is the debate between recycling and reuse, especially for packaging materials. New voices are emerging that would seek to favour reuse over long established recycling chains. We urge pragmatism in this development. The Paper Industry and its products are a sustainability success story – renewable and recyclable products that have carbon capture and storage (sustainably managed forests) built into their business model, and are ready to use fossil free energy sources as soon as they are competitively available. Reusable products have their proper place but nobody should be seeking to disrupt paper's success and encourage further use of fossil-based materials.

CPI is delighted to have launched the Paper Industry Gold Awards this year, in concert with the Paper Gold Medal Association. It is high time that this industry had a prestigious awards scheme of its own, to showcase the incredible people who work in paper and the fantastic work they do. The awards, which were presented at the House of Lords in May, were a great success and I thank all those who entered and congratulate all the winners. We look forward to holding them again in 2023.

The work of CPI depends on the efforts of many people. I would particularly like to thank the CPI President, Stewart Begg (Essity), Vice-President, Brian Lister (SAICA), Honorary Treasurer, Angus MacSween (Arjowiggins) and the Past President, Patrick Willink (James Cropper) for their advice and support over the past year. Together with CPI Chief Operating Officer Neil Fishburne, this is a strong management team for CPI, and I am very grateful for their support.

Finally, I would again like to thank the CPI Executive team. CPI is fortunate that it can rely on a group of experienced and dedicated staff who deserve an enormous amount of credit for the work that they have done in 2021, under such challenging circumstances, and the achievements they have made, many of which are recorded in this Annual Review.

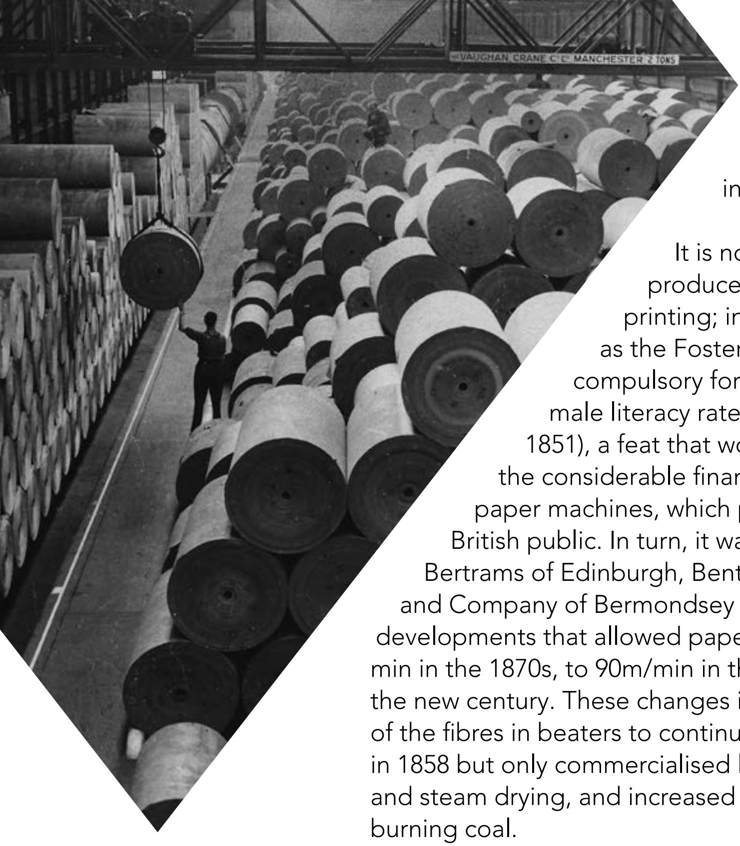
Andrew Large, *Director General*

BIRTH OF THE MODERN PAPER INDUSTRY: 150 YEARS OF PAPERMAKING IN THE UK

Papermaking is an ancient craft that was invented in China and took 1,000 years to reach Continental Europe, then a further 400 years until it took hold in the UK, circa 1490. For the next two centuries our papermakers concentrated mainly on the cheap and easy 'brown' (or packaging) grades, and it wasn't until well into the 18th Century that the home-produced finer 'white' grades (especially woven paper which was invented in England) could match the quality of product from European producers. Soon after, the Industrial Revolution was under way, and this touched the paper sector around 1799 when plans for a papermaking machine were smuggled out of Revolutionary France, and within a handful of years the technology that we know today as the Fourdrinier machine was commercialised, only to be followed in 1809 by John Dickinson's Cylinder Mould design. From a relatively slow start, the UK Paper Industry now became the focus of innovation across Europe for the next few decades.

By 1820 mechanical production was already outstripping that made by hand. Nevertheless, although in decline, hand production remained steady for several decades because of two significant factors acting to suppress machine manufacturing: shortage of fibrous raw material (rags, ropes and other textiles), and fiscal drag caused by imposition of excise duty on finished paper products. However, this tax was repealed in 1861, which had the immediate effect of encouraging investment in new paper mills, while alternative fibrous raw materials such as wood (1850-1870s) and esparto (1860s) began to supplement the use of rags. At the advent of The Paper Makers' Association in 1872, the UK paper manufacturing sector was already entering a new era thanks to the application of finance and science.

The Paper Mills Directory of this year gives a snapshot of the industry. As would be expected, the number of hand-making operations was well into decline, but it is worth noting that the majority of mechanised mills ran small and relatively old machines, generally around 48-60" (1.2-1.5m) width; indeed, there were just three large modern machines in the country, two of 100" (2.5m) width in Scotswood run by William Grace, making packaging, and one of 104" (2.6m) width in the Chadwick and Taylor mill in Broughton Grove, Manchester, making newsprint. However, the pace of change can be appreciated by stepping forward just ten years, to 1882, when there were 22 paper machines of width 100-125" (2.5-3.2m), all in England or Wales, five producing packaging and the rest dedicated to newsprint or other printing grades; and so the UK paper industry had commenced its transformation from a mechanised cottage industry to one



based upon mass production, thanks in no small part to the investment occurring in Lancashire.

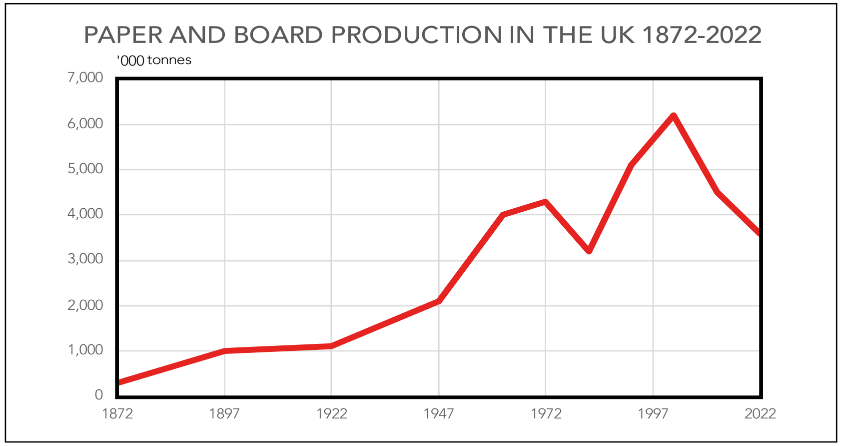
It is no coincidence that the main grades produced on these new, fast machines were for printing; in 1870 the Education Act (also known as the Foster Act) was passed, making education compulsory for children aged 5-13 years. By 1900, male literacy rates in Britain hit 97% (from just 69% in 1851), a feat that would not have been possible without the considerable financial underwriting of these large new paper machines, which played a major role in upskilling the British public. In turn, it was paper engineering companies such as Bertrams of Edinburgh, Bentley and Jackson of Bury, Bryan Donkin and Company of Bermondsey and Tidcombe of Watford, who oversaw developments that allowed paper machine speed to increase from 45m/min in the 1870s, to 90m/min in the 1880s and 150m/min by the turn of the new century. These changes included moving from batch processing of the fibres in beaters to continuous processing using refiners (patented in 1858 but only commercialised later), improvements in suction drainage and steam drying, and increased utilisation of steam power raised by burning coal.

Indeed, the latter decades of the 19th Century saw several significant developments and installations in the UK. William Ibbotson of Cartmel Mill, Lancashire, patented a design for a twin-wire machine in 1875 (although it didn't find favour until a few decades later); the first Yankee drying cylinder was installed in 1880; the first multi-cylinder board machine was imported from America and built in Alfred Cannon's mill at Sandford–upon-Thames, circa 1893; and Alexander Black, a paper maker at Invergowrie, patented a vacuum couch in 1897.

By 1912, just four decades after its formation, the Association oversaw an industry where indigenous production reached 1Mt for the first time; imports amounted to a further 0.5Mt, giving an apparent consumption of 1.5Mt, or per capita consumption of 36.7kg – a greater than five-fold increase in all figures since the early 1870s. Indeed at the time Britain was the third largest producer of paper in the world, after the USA and Germany. But of course it couldn't last, and WWI intervened. Yet even this dreadful period of conflict did usher in some welcome changes, notably employment of women in a wider variety of roles throughout the Paper Industry, which contributed to female emancipation in 1919.

It also forced the UK industry to develop indigenous manufacture of such important products as photographic and tracing papers, grades that prior to the war were imported, mainly from Germany. Another innovation that can be traced back to WWI is the increased use of recovered paper as a supplement or replacement for virgin fibre. Prior to this time it had been used as a minor furnish constituent, but now it was utilised in very considerable quantities, even as a complete replacement of virgin fibre, a situation that continues to this day where the 'urban forest' constitutes around 70% of this country's fibre resource.

The interwar period saw steady gains in production, reaching 2.5Mt in 1938 - this was the period when companies started to merge, consolidating into large corporations such as A.E. Reed and Wiggins Teape. It also saw the introduction of soft tissue manufacturing to this country, which commenced in the 1920s. However, once again war put a break on proceedings, and overall output did not reach pre-war figures again until 1950. Post-war consolidation continued apace, producing Bowaters, Fort James, the Inveresk Group and St. Regis Paper Company, all names that have since disappeared, although some of their sites still operate today. Throughout this time there were also family-owned enterprises, most notable of which remains James Cropper PLC whose mill in the Lake District has Mark Cropper, a sixth generation of the family, as its Chairman. Innovation also continued, such as development of the Inverform forming system in the 1950s, at St. Anne's Board Mill in Bristol, and computer control installed at Wolvercote Mill, Oxford, in 1966.



With an almost uninterrupted rise in production throughout the twentieth century, UK papermaking peaked at the Millennium with output of over 6 million tonnes. It has since fallen back as the Graphics sector declined and lighter weight packaging was introduced.

Production volumes continued to rise until around 1970, after which stagnation was followed by a steady decline. Meanwhile, import volumes, which throughout most on the 20th Century had equated to between 25-50% of indigenous production, rose from the mid-1960s onwards. By 1980 the two figures were comparable, and in 1981 imports exceeded UK production for the first time, and so it has stayed ever since.

Looking back over the last 150 years it is hard for us to appreciate how all-encompassing paper was to the Victorian and Edwardian person, but until the commercialisation of plastics in the first half of the twentieth century, paper was the base material for a host of uses that would disappear once the synthetic materials gained hold. In addition to banknote, blotters and 'browns', and cartridge, cheque and copying papers (speciality tissues made for a variety of chemical copying processes that were superseded by photocopiers), there were drabs (used in textile processing), long elephants (used for wallpaper) and leather boards (hardwearing grades for vehicle panels, suitcases and shoe soles). There were also patents for complex 3-D shaped products, such as barrels and bottles, the forerunners of modern moulded pulp products, grades that did not appear commercially in the UK until the mid-20th Century. But as the wheel of history turns full circle, so in the 21st Century we are now looking to use paper, an inherently sustainable and biodegradable product, as a replacement for plastics.

Today, in 2022, we have fewer mills than ever, yet our combined output of around 3.6Mt is similar to that from the mid-1970s when there were three times the number of production sites. Our current tonnage is dominated by corrugated packaging produced by DS Smith, SAICA and Smurfit Kappa, and newsprint from Palm Paper. In addition, we have a host of speciality manufacturers, too numerous to mention, from carton and coffee filter to medical paper and moulded fibre, and teabag and transformer grades, alongside a thriving (indeed expanding) tissue sector and a resurgent hand-manufacturing industry encompassing Two Rivers, The Paper Foundation, and Frogmore Mill. Finally, as CPI, the successor to The Paper Makers' Association, enters its 151st year, it can look forward to further investment in the UK thanks to Eren Paper and ICT, a testament to the enduring strength of this most sustainable of foundation industries.

Daven Chamberlain
Chairman & Journal Editor, British Association of Paper Historians

CPI TIMELINE 1872-1914

1872
On 29 October, the Paper Makers' Association of Great Britain and Ireland is founded. It quickly condemns over-capacity, cut-price competition from overseas, exorbitant wage demands and the high price of raw materials.

1874
In the United States, Olivier Long effectively invents corrugated board, by patenting the concept of adding a second liner to a 'single face' corrugated paper. Previously, this corrugated paper had been used to protect bottles and for lining top hats.

1887
The first paper serviette is produced.

1894
The first corrugated boxes are produced in the United States by Henry Norris and Robert Thompson. Not only are these cardboard boxes cheaper and lighter than traditional wooden boxes, but they are also easier to store.

1896
Electricity is used in a paper mill for the first time.

1900
UK paper production is estimated at 650,000 tonnes per annum, with under 300 mills in operation using over 500 paper machines. Employment is around 35,000.

1903
A cereal producer uses for the first time a box made of corrugated board single wall and corrugated is approved as a valid shipping material.

1905
German output of paper outstrips that of the UK, making the UK the third largest producer in the world after the United States and Germany.

1912
UK paper production passes 1 million tonnes per annum for the first time. Imports are running at half that amount.

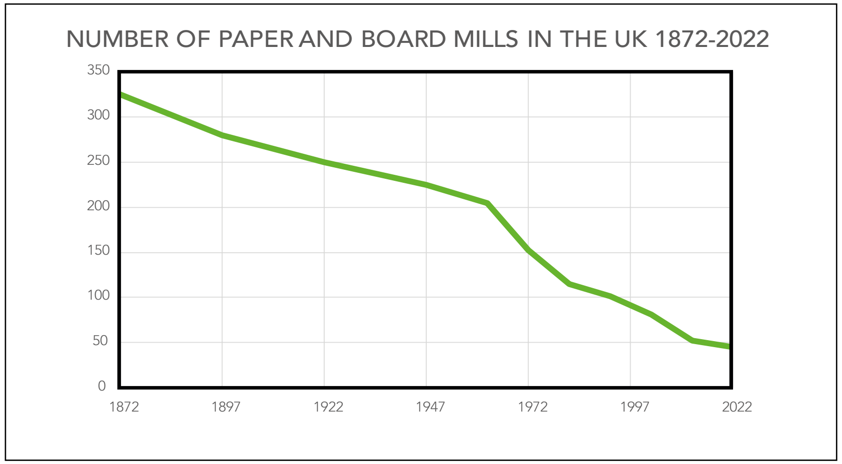
1914
The outbreak of WW1 boosts the use of recovered paper as a supplementary raw material.

150 YEARS OF HISTORY.....

The papermaking methods used in modern mills can be traced back to the ideas patented by the Fourdrinier brothers in 1806, who developed the first papermaking machine capable of making continuous rolls of paper. By the time The Paper Makers' Association was established 150 years ago, Fourdrinier machines had largely displaced the traditional hand papermaking where frames with a mesh base were used to sieve fibres from a water-based solution, with water drained by gravity and then pressed out using felt. Sheets were then dried in warm air ready for trimming and sale. Modern machines still have the same general sections as the original Fourdrinier machines, but on a completely different scale:

- The wet end where fibres are suspended in water with a continuous sheet being formed on a moving mesh as water is removed by gravity and vacuum,
- The press section where more water is pressed out,
- The drying section where heat is applied either directly as warm air or indirectly as the paper web passes over heated metal rollers, and
- The reel section at the dry end.

A modern paper machine can have more process-control electronics than an airliner!



The number of paper and board mills in the UK has steadily declined, particularly since the 1960s when the 'white heat' of the technological revolution meant fewer mills produced more paper on ever bigger machines.

Energy remains central to papermaking, with power needed to drive the machine and heat to dry the paper. 150 years ago, coal was the primary energy source. Steam, or water, powered engines provided mechanical power through belts and drives to run the machines, while boilers provided heat for drying.

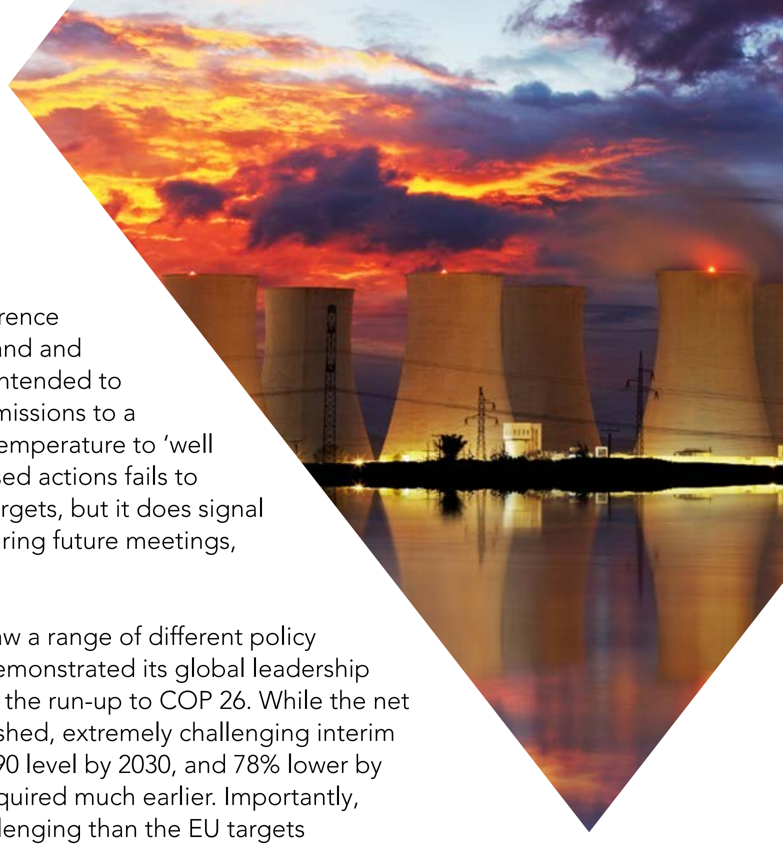
In 1882, the first stand-alone power station, to provide electricity for street lighting in London, was established, with the first use of electricity at a paper mill being reported in 1896. Electricity gradually took over as the source of power for papermaking, though coal remained the source of heat until being replaced by natural gas or biomass in the UK. Today electricity is either from the grid or generated on site in high efficiency Combined Heat & Power Plant (CHP). Generating both power and heat at the same time delivers considerable efficiency savings as the heat normally wasted at a stand-alone electricity plant is positively used for the process heat demand.

Then, as now, access to production materials remains of critical importance to the industry, with mills being established in places with good access to water, energy, fibre, and transport links. Energy and process efficiency has always been a priority, originally to minimise production costs, but now also as part of decarbonisation and sustainability strategies.

CURRENT ENERGY ISSUES

After a period of relative price stability, energy issues were back in the headlines in 2021 and even more so in 2022. The industry faces an immediate energy cost crisis, but also the long-term challenge of moving towards net zero by 2050, now with early action expected by the mid-2030s as part of the UK commitment linked to the COP 26 Climate Change Conference in Glasgow. While the press focus is on increased energy cost for domestic consumers, there is a major impact on energy intensive manufacturing.

The current energy supply and cost crisis, driven by the Russian invasion of Ukraine, builds on the existing issues following the COVID-19 pandemic which reinforced the importance of paper-based products to the economy. As well as the tragic public health consequences, COVID-19 also upended economies and energy supply chains. While the initial impact was an economic slump that slashed energy use, this was followed by an unexpectedly strong rebound with much higher-than-expected energy demand. A historic lack of investment in energy systems meant that when demand suddenly increased the supplies were simply not there, or could only be secured at higher prices.



Net Zero. 2021 also saw the UN Conference of the Parties (COP 26) hosted in Scotland and delivering the 'Glasgow Climate Pact' intended to reduce global climate change linked emissions to a level that limits any increase in global temperature to 'well below 2°C'. In reality the sum of promised actions fails to deliver sufficient change to meet the targets, but it does signal a direction of travel, likely to tighten during future meetings, starting with Egypt later in 2022.

For UK industry, the first part of 2021 saw a range of different policy announcements, as the Government demonstrated its global leadership in the emissions reduction challenge in the run-up to COP 26. While the net zero by 2050 target was already established, extremely challenging interim targets were added (68% below the 1990 level by 2030, and 78% lower by 2035), meaning that actions are now required much earlier. Importantly, these UK targets are now far more challenging than the EU targets (minus 55% by 2030), posing a real challenge to reach while delivering competitively priced energy for UK industry. An especially challenging aspect of the new UK targets is that the use of natural gas is now being questioned, as emission levels from gas are too high to meet these new targets.

A major challenge during 2021 has been to engage with policymakers to explore the economics of alternatives to gas, all of which have challenges in availability, technology or cost, and sometimes all three. CPI and the Paper Industry Technical Association (PITA) established a decarbonisation Roadmap in 2014 which has been updated to reflect current opportunities and technological progress. A copy of the updated Roadmap can be found on the CPI website. The key ideas currently drawing most attention are hydrogen and electrification. CPI is actively engaged in several projects developing potential projects to progressively switch gas to hydrogen and has published reports highlighting challenges around electrification.

Energy crisis. Added to these policy-led challenges are the ramifications of the Russian invasion of Ukraine, leading to a complete revision of both UK and EU energy policy that will have major implications for energy intensive

CPI TIMELINE 1916-1952

1916 – The first 'double wall' corrugated box is produced by the Sefton Manufacturing Company in Indiana, USA.

1920 – The Technical Section of The Paper Makers' Association is formed.

1926 – The depressed state of the industry leads to the imposition of protective tariffs.

1934 – UK paper production exceeds 2 million tonnes per annum for the first time with imports of 1 million tonnes.

1939 – The Paper Industry is taken under Government control during WWII in recognition of its importance to the country. Controls on imports of raw materials and paper were finally removed in 1956.

1940 – Soft, two-ply, flushable tissue comes to the UK market.

1941 – The Waste Paper Recovery Association is formed in November.

1949 – The Paper Makers' Association becomes the British Paper and Board Makers' Association.

1952 – FEFCO – The European Federation of Corrugated Board Manufacturers – is constituted.

manufacturing sectors heavily dependent on gas. In recent years Russia has become the main supplier of gas into central and eastern Europe, removing any dependence on Russian gas and oil is now a political priority, potentially irrespective of cost. While Russia is not a substantial supplier of gas direct to the UK (being limited to a number of liquified cargoes), the indirect impact is substantial, with the UK network being directly linked via pipelines to the continent, meaning that high European prices also pass through to the UK market. The UK can be expected to play a major role in transhipping imports of Liquified Natural Gas and Norwegian production as well as ramping up domestic production.

Additional to the direct cost increase on gas supplies, gas is also the marginal fuel of electricity generation and key in supporting the grid as intermittent renewable generation becomes more important. So the increase in the cost of gas has a direct cost impact on electricity prices – a particular issue for policy makers with electrification seen as one of the main alternatives to gas.

For energy intensive users such as papermakers, the normal use of forward contracts has been somewhat complicated by the COVID-19 disruption to normal production levels making the estimation of future energy use difficult, but even so, most companies have managed the situation. But contracts unwind over time, meaning higher costs will be faced at some point. It's hard to see these energy supply issues being resolved any time soon, so high prices are likely here to stay. Unfortunately, the lack of closure of energy intensive sites has been taken as evidence that the situation can be managed without Government intervention.

Adding to the overall cost crisis has been the huge cost increase in carbon, with allowances in the new, post-Brexit, UK scheme peaking at almost four times the initial price in May, and much higher than in the EU scheme, driven by a lack of market liquidity and buying in the market by the financial sector. Despite major concerns from industry over this additional cost, Government declined to intervene in the market despite the inability of industry to obviate these increased costs, while also neglecting to develop the promised Innovation Fund using part of the revenue received for the auction of carbon allowances.

On a positive note, progress continues with energy efficiency with support from the Industrial Energy Transformation Fund, hopefully ramped up as part of the new strategy to move away from gas. Building support programmes to help industry through this energy transition will be critical.

SO, WHERE HAVE WE COME FROM?

Historically paper mills were built in proximity to two of the most important resources for papermaking - trees and water. With water being the carrier for paper fibres through the process but not forming part of the sheet, emissions to water were, and continue to be, a principal area of environmental impact. Water in was discharged out after use with any remnants not required for papermaking, *dilution* being the *solution* to effluent treatment.

The rise in understanding of global environmental issues such as air and water pollution, climate change, landfills, and forestry have all led to increased awareness and subsequent government regulations. Worldwide issues such as deforestation and the use of chlorine in chemical pulping and pulp bleaching have much improved over time with changes in forestry management and replacement of the chlorine in pulping and bleaching processes. The main focus of this review, however, is on what is arguably one of the most significant areas of impact, namely the use of and emissions to water.

REGULATORY CHANGES

The Regional Water Authorities (the "Water Boards") were formed in in 1974 as a result of the Water Act. They had responsibility for water pollution including sewer discharges and, as a consequence, an interest in industrial discharges. This poacher and gamekeeper role was split in 1989 with the formation of the National Rivers Authority. Discharge consents were issued with the main focus, for paper mills at least, on emissions of solids and Biochemical Oxygen Demand (BOD). The content of paper mill effluents is essentially biodegradable over time with BOD being the measure of how much oxygen would be used in that process, thus potentially depleting river oxygen levels.

The National Rivers Authority continued in this form until 1996 when it was merged with other authorities, to form the regulators we have today namely, Environment Agency in England, NRW in Wales, SEPA in Scotland and NIEA in Northern Ireland.

Coincidentally, the European Union published the Integrated Pollution Prevention and Control (IPPC) Directive in 1996. This Directive introduced

CPI TIMELINE 1954-1989

1954 UK paper mills produce over 3 million tonnes per annum for the first time with imports of 1 million tonnes. Over 250 mills are in production with approx. 79,000 employees.

1959 Employment in the industry peaks at 100,000.

1960 UK paper production exceeds 4 million tonnes per annum for the first time with imports of 1.5 million tonnes. Consumption per head passes 100kg.The EFTA Treaty is signed which means that all imports from Norway, Sweden, Finland, and Austria become duty free by 1966.

1973 The UK joins the EEC and tariff barriers with the rest of Europe are steadily dismantled.

1974 The British Paper and Board Makers' Association and the Employers Federation of Papermakers and Board Makers merge to form The British Paper and Board Industry Federation.

1975 The Technical Section becomes the Technical Division of the British Paper and Board Industry Federation.

1981 Imports exceed UK production for the first time. Recovered paper becomes the main fibrous raw material used by the UK Paper Industry.

1982 The Technical Division becomes the Paper Industry Technical Association.

1989 UK paper exports break the 1 million tonne barrier.

the concept of Best Available Techniques Not Entailing Excessive Cost (BATNEEC) and BREFs (BAT Reference Documents) for certain sectors including Pulp & Paper. The Pulp & Paper BREF detailed the Best Available Techniques for the sector along with emission levels expected from an operator working to BATNEEC. Operators in the sector had to apply for a permit to operate. The application focused not only on the end of pipe emissions but how the operator was working at or towards BATNEEC. The IPPC Directive was updated and amalgamated with a number of other Directives into the Industrial Emissions Directive in 2010. BATNEEC was morphed into BAT with the A for Available taking on a greater significance. More importantly the requirement to work to BAT became a legal requirement as did compliance with the BAT AELs (Annual emission levels specified in the BREF). The directive was transposed into UK law through the Environmental Permitting Regulations 2010 with all mills (producing over the 20t/day threshold) being required to have a permit. The final change to date was the revision of the Pulp & Paper BREF in 2014 which defined the BAT Conclusions and legally binding BAT AELs. BAT covers all aspects of operations including water and energy efficiency and management systems. All mill permits now have the applicable BAT AELs written in.

In terms of water intake, most paper mills abstract freshwater from rivers or groundwater (boreholes). This has been done historically under licence for the Water Authorities and subsequently the Environment Agency (NRW or SEPA).

WHERE ARE WE NOW?

A clear recognition that dilution is not the solution. The solution is, in fact, to utilise the natural degradation process that takes place in the river to treat mill effluents before they are discharged, replacing the oxygen consumed prior to discharge. Considerable investment in effluent treatment plant to remove firstly solids, mainly cellulose and fillers, then the organics causing high BOD, has resulted in a considerable reduction in environmental impact from paper mill effluents.

Note: COD or Chemical Oxygen Demand is a comparable indicator to BOD.

Ever mindful of the need to maintain access to a reliable source of fresh water, vital to paper production, water is used many times throughout the papermaking process. Although the amount of system closure is dependent upon the grades being produced, there has again been considerable progress in reducing water intake.

Furthermore, with the advances in effluent treatment and efficient water use, around 95% of water used in paper mills is returned to the environment.

LOOKING AHEAD TO FUTURE CHALLENGES

So, how does the story continue to unfold as we look ahead to the future? Environmental regulation continues to shape much of the direction, with the feeling of moving into a Brave New World following the UK's exit from the European Union being particularly pertinent. Some 80% of environmental regulation was derived from European Directives so, although much has been transposed into UK regulation, the opportunity arises for building a UK Framework for protecting the environment through regulation. That framework, in England at least, is outlined in the Environment Act 2021. To note, environmental regulation is a devolved power with Scotland and Wales likely at least to take a similar approach and Northern Ireland following EU rules as per the Northern Ireland Protocol.

ENVIRONMENT ACT 2021

The Environment Act passed into law on 9th November 2021 with the aim of addressing environmental protection and the delivery of the Government's 25-year environment plan. It is broadly in the form of enabling powers, with the detail to be unveiled in subsequent consultations and regulation.

As part of the overall framework, the Act requires organisations to 'pay regard to' environmental principles with the aim of putting the environment at the heart of policy making. The five principles comprise the ***integration principle, prevention principle, precautionary principle, rectification at source principle*** *and* ***the polluter pays principle***.

Whilst there are little or no specific targets detailed in the Environment Act 2021, the Act requires Defra (Secretary of State) to set long term legally binding targets on air quality, biodiversity, water, resource efficiency, and waste reduction. These targets must be of 15 years in duration and be proposed no later than late 2022. One way or another, the form of these targets will impact on regulation relevant to paper industry operations.

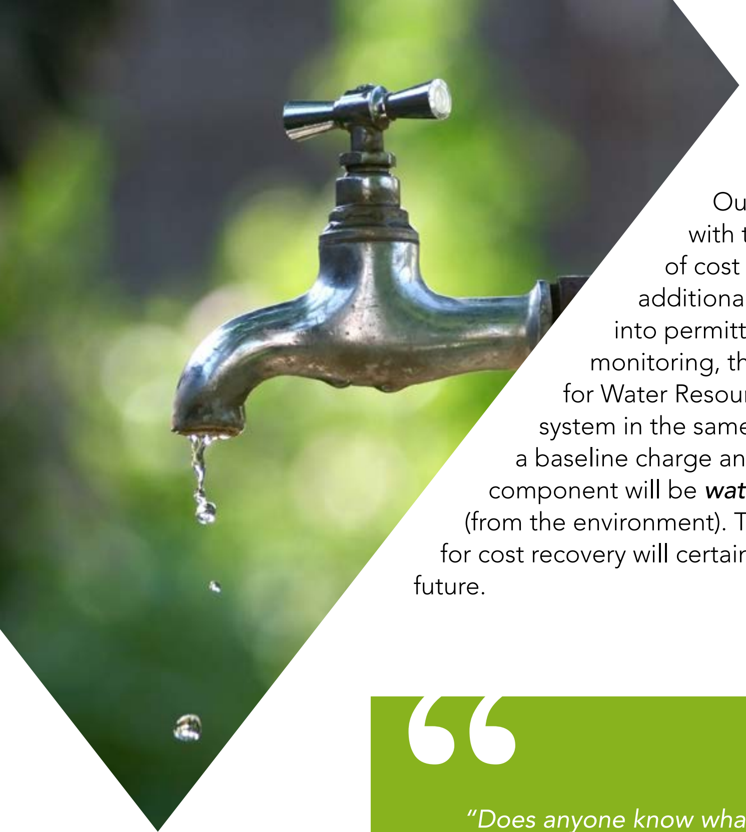
Other key areas for the Paper Industry covered by the Environment Act 2021 include:

Abstraction Licences to become Permits

The Act enables reform of the abstraction licence regime, including the revocation or variation of abstraction licences without the liability for compensation (from 1st January 2028) where the change is necessary to protect the environment or where a licence is consistently underused. Defra is currently consulting on plans to bring abstraction licensing into the Environmental Permitting Regime. The consultation covers the mechanism and the timetable for moving licences into permitting. Initially at least, licences will become permits with the ultimate option to merge into a single site environmental permit. Any conditions attached to licences, including abstraction limits, will transfer intact although the consultation includes proposals for periodic review (timeframe to be confirmed) of licences which could result in variations to those conditions.

Management of Water Resources

There are requirements in the Act for water companies to produce drainage and sewerage management plans along with more collaboration between water companies on managing supply and demand through their statutory water management plans. This links through to the Regional Water Resources Groups, water company led but involving all abstracting sectors. This with the aim of fostering greater cross sector collaboration and understanding of the needs of the environment and all water users. These Regional Groups have published draft plans for consultation in 2022. Ultimately this collaboration will drill down to catchments, prioritising those with water availability and other issues. The involvement of paper mill operators will be important here to ensure continued access to fresh water. The key message being that the sector does not consume the water it abstracts but returns around 95% back, treated, to the environment thus being part of the solution to water availability not the problem.



Strategic Review of Charges; Water Resources

Outside of the Environment Act per say, with the Environment Agency ever mindful of cost recovery along with an eye on the additional work involved in bringing abstraction into permitting and consequent ongoing monitoring, the Strategic Review of Charges (SRoC) for Water Resources for 2022 proposes a charging system in the same vein as that for existing permits, with a baseline charge and additional components. One such component will be ***water availability*** along with ***water loss*** (from the environment). These factors along with the requirement for cost recovery will certainly push up the cost of water in the future.

> *"Does anyone know what a BOD is?" was the call that went round the office a few weeks after I started my first job in a papermill after graduating. "I do" I said, trying desperately to recall a university lecture I attended on Environmental impacts of paper mills. "Good" came the reply. "The water authority's coming to site and wants to discuss the mill effluent discharge" …..and that is how I became an Environmental Coordinator! The mill where I was working was being completely redesigned and rebuilt. Despite having two paper machines, a pulp processing plant and a deinking plant, there was no effluent treatment factored into the design at that time! Remarkably that was as recent as 1983. The story, the environmental story at least, is still very much unfolding.*
>
> **Debbie Stringer,** *Director of Environment*

UK BAT

The review of EU Pulp & Paper BREF will trigger the development of the UK BAT Document for the Pulp & Paper Sector. The framework has been proposed, which includes industry involvement, for deriving UK BAT Documents which will replace, in time, EU BREFs as the reference for UK permits future permit conditions. Establishing Best Available Techniques and emission levels for the sector will be quite a task!

There are some significant challenges to come as UK environmental regulation is established. Busy times ahead with the continuing unfolding story!

RENEWABLE AND SUSTAINABLE PAPER

Wood-based fibres haven't always been the basis of papermaking, though recycling has! Paper can be made from any type of long fibres and a number of different raw materials are used, predominantly wood fibre, but also others where special characteristics are needed – cotton for long-life and abaca for tea and coffee bags are good examples.

Historically, the word paper is linked to the papyrus used to make parchments in ancient China, though European papermaking was originally based on recycling linen and cotton fibres taken from old rags. Around the time that The Paper Makers' Association of Great Britain was established, breakthroughs in technology, chemistry, and automation allowed mechanical and chemical treatment of wood to produce much higher volumes of fibre at lower cost - the start of the modern paper industry based largely on wood derived fibres.

Papermaking has always involved recycling, with most paper and card made in the UK (more than 70%) being manufactured from recycled fibres collected from households and businesses. Even with these high levels of recycling, the industry is still underpinned by forestry, with virgin fibres replacing those lost to the system by, for example, long-term storage (books) or tissue products (toilet paper) being unavailable for recycling. Additionally, fibres can only be recycled a finite number of times before they eventually become damaged and shortened, and so lost to the process. Damaged fibres are generally used as agricultural soil improvers adding organic material to soils or if not, then for energy recovery.

Economies of scale have hugely increased the size of a modern mill designed to supply product onto the global market. As such, these mills are located in areas with guaranteed access to raw materials, increasingly plantation grown, specially planted trees grown in properly managed forests. The UK simply doesn't have enough productive forests to host pulp mills serving the general market. UK mills use smaller scale mechanical pulping to make pulp for their own use.

Virgin pulp used in the UK is predominantly sourced from Scandinavia and North America conifers, or eucalyptus pulp from plantations in southern Europe or South America. The sale of timber and timber products from

forests provides income for forest owners, and a huge incentive to ensure that land remains used for forestry and not converted for other uses. Indeed, properly managed forests don't just provide timber products, they also have key roles in conservation, recreation, and in storing carbon. Added to these existing benefits is a quickly growing interest in the potential to grow a bio-based economy, with non-sustainable products increasingly being swapped for sustainable ones.

The UK has two modern integrated pulp and paper mills, operated by Holmen Paperboard in Workington, and UPM Caledonian in Irvine, making virgin pulp by the mechanical grinding of wood. Mechanical pulping provides higher yields; producing pulps suitable for uses such as magazine papers and food packaging. Depending on the product being made, mechanical pulp can be used alongside other types of pulp to provide specific characteristics in the final product by blending or layering. Both mills use all the pulp they make to convert directly into paper, and so sell no pulp onto the market. Virgin pulps used in other UK mills is imported.

Both of these sites are well-invested, using modern equipment to minimise waste and energy use. The sites also have their own Combined Heat & Power plant (CHP) using low grade forestry and other wood residues to generate heat and power, hugely reducing their emissions of fossil carbon.

In 2020, the UK harvested in the region of 10.8m tonnes of timber, with only about 0.4m tonnes from Scotland and northern England used to make paper at these two sites.*

*www.forestry.gov.uk/forestry/beeh-a9zjnu

Holmen Paperboard in Workington

SETTING A NEW UK LAND-USE POLICY

With a major focus on carbon storage through changes in land-use, there's huge interest in tree planting. At present the UK is one of the least forested countries in Europe, with a great opportunity to combine a major tree planting initiative with building the potential for carbon storage, enhancing wildlife habitat, and slowing the flow of rainwater to alleviate flooding. Long-term management of these new forests can deliver multiple benefits including harvesting biomass to support a bio-based economy and reduce dependence on fossil based raw materials.

UK TIMBER REGULATION (UKTR)

Companies handling timber and timber derived products, including wood pulp and paper, made or imported to the UK must prove it has been legally harvested by operating due diligence systems to prevent illegally harvested material entering their supply chains or the market.

While compliance with UKTR proves legality, most pulp used in the UK is either from recycling, or goes further than the legal minimum by the purchase of independently certified material to ensure that environmental concerns are also properly addressed.

Consumers can support this initiative by buying product marked as independently certified – FSC and PEFC are the most widely used schemes.

HEALTH AND SAFETY

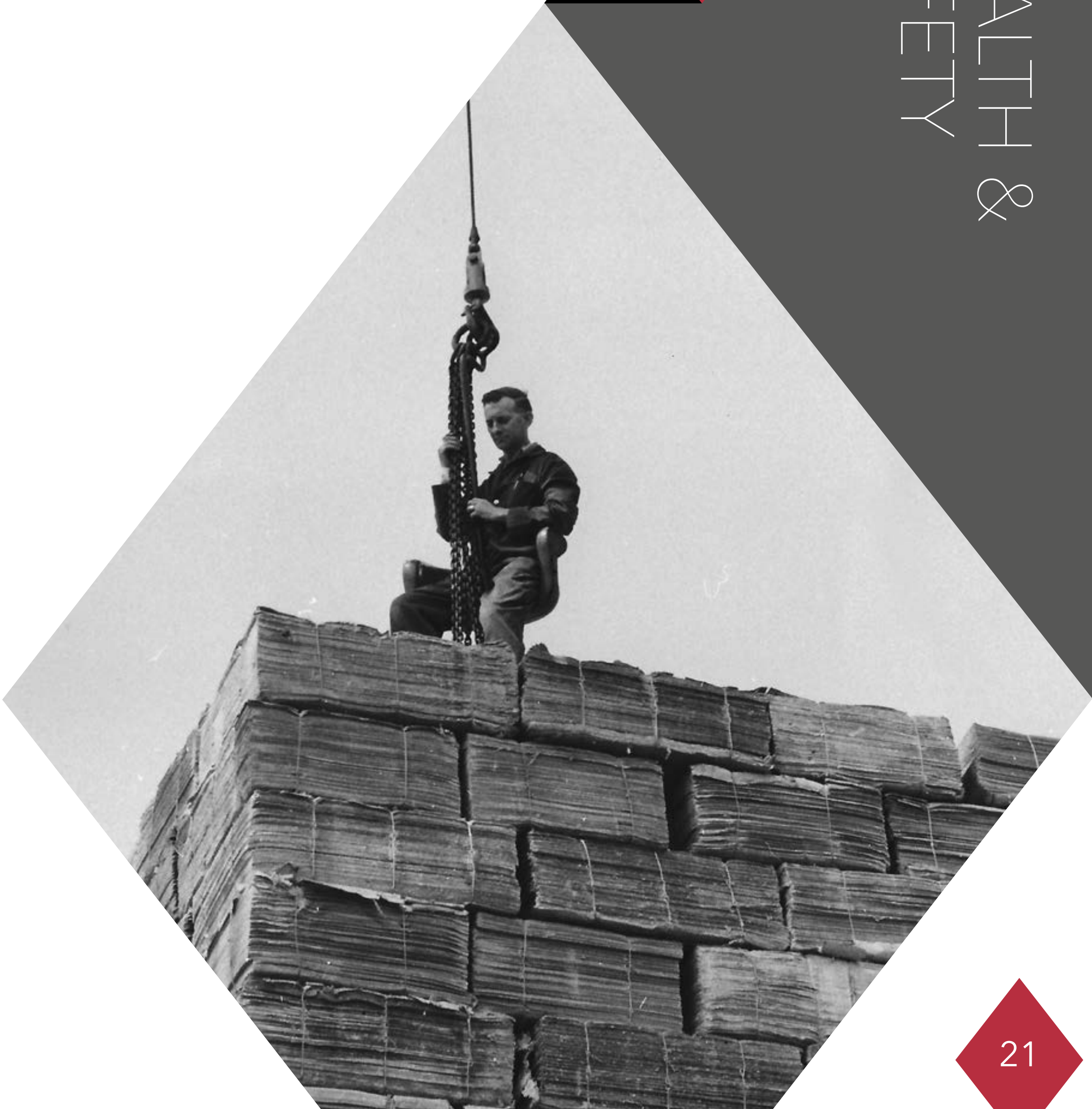
As we celebrate 150 years, and looking back at the old photographs, it's interesting to see what was acceptable back then to what is acceptable now.

> *"This reminded me of my first day working in a paper mill in the mid-80s. As I walked to the paper machine to meet the crew for the first time, I was introduced to Bill – a papermaker born and bred, skilled at his job and clearly knowing far more about the art of making paper than I ever would. Raising his hand, and with the words that have stayed with me throughout my time in the industry, he said "See this, you're not a paperman until you've lost a couple of fingers doing your job."*
>
> **Andrew Braund,** *Director of Health and Safety*

Unfortunately, Bill was one of many papermakers who held this belief, and had the scars to prove it. Of course, back then it was unimaginable for some companies to even consider that fitting guards around in-running nips and dangerous moving parts was the only way to protect people. After all, no-one in their right mind would put their hand in there just to keep the paper machine or corrugator running. Likewise, as an operator, guards were an inconvenience, something that you needed to navigate around, either by crawling under or reaching around in order to do your job properly!

This makes you think about people's perception towards health and safety. Thankfully, the attitudes and beliefs held back then are no longer the norm.

It is well documented that the Paper Industry has a chequered past. In fact, as far back as 1937, a tripartite Joint Standing Committee introduced rules for preventing accidents on machinery in the paper and board industry.



Move forward 84 years, and the early work of that committee is still evident today, under the stewardship of the Paper and Board Industry Advisory Committee (PABIAC).

Improvements in health and safety, and changing a culture, seldom move quickly; that's not to say the industry hasn't greatly moved forward since 1937. It most definitely has. And, although the basic process of making paper, producing packaging, and recycling paper remains unchanged, as the size and speed of machines have increased substantially, advances in machine safeguards which are now applied within the industry, alongside a different attitude towards safety and culture allow for the development of better safety controls.

PABIAC EVALUATION MID–TERM PROGRESS REPORT

Keeping the industry together under one health and safety umbrella can be challenging. At the halfway stage of the current PABIAC Strategy it was noticeable that, while the corrugated sector was engaged, completing actions within the given timescales, and progressing well, the same level of engagement could not be said for papermaking, which is why in June 2021 we invited a representative selection of CPI members to participate in an independent health and safety study. Commissioned by CPI, and with full support of PABIAC, the study aimed to gauge the differential between papermaking and corrugated adoption and progress against the strategy, and to enable PABIAC to take appropriate action to correct the situation.

In total 14 sites were visited, and meetings were held with Managers, Directors, CEOs, and their respective site Health and Safety Managers. Views and comments were collated, and in August the findings from this study along with a series of recommendations were presented to the PABIAC Strategic Committee.

Overall, there was widespread support for the PABIAC strategy and recognition that, in the main, the objectives represented the needs of the industry at the current time. The role and importance of CPI in effectively driving the health and safety agenda across the industry for over 25 years was also acknowledged, and employees and managers at all operational levels are far more actively engaged in health and safety than they were in the late 80s (at the time when Bill was working…!).

One of the great strengths of the industry is accepting that health and safety is non-competitive, and therefore there is a genuine willingness to help and learn from each other. The sharing of serious or potentially serious incidents is a good case in point. Feedback from the study illustrates how much these alerts are appreciated and valued. The detail provided by the originator of the alert, in addition to the impartial commentary by CPI, provides enough detail to enable those receiving the information to understand the root cause of the incident. In turn, this enables them to take appropriate action, and to promulgate these more widely within their own organisations.

There is, however, a feeling that while the industry is constantly striving to do more, the instrumental and tangible support by the other PABIAC partners could be reinforced, and this is a concern. The report concludes with several recommendations for PABIAC collectively, and for each of the PABIAC partners to reflect on the findings from the report, and to act accordingly to address some of the concerns raised. The full report is available on the CPI website.

LOOKING AHEAD

Looking ahead, and without losing sight of the fact that there are still over twelve months of the current strategy to run, in 2022 PABIAC, through engagement and collaboration with the industry, will once again begin the process of identifying and agreeing the UK's Paper-based Industries next Health and Safety Strategy – 2023 and beyond…

PAPER FOR RECYCLING

2021 was a tough and unusual year in recovered paper markets, with Paper for Recycling (PfR) prices remaining under pressure for most of the year. Prices for all grades progressively climbed up until September and showed steady levels in October with the first price reductions seen in November. Towards the end of the year prices continued a downward trend, which varied significantly depending on the grade. Several factors contributed to increasing prices up to October. The post-pandemic recovery placed a premium on fibre through the year. Following a collapse at the start of the pandemic, demand has rebounded and as lockdown measures eased, consumer spending increased with demand outpacing supply. The continuing fall in HGV driver numbers and the lack of new drivers entering the market, which was aggravated by post-Brexit difficulties, led to labour shortages. Additionally, reduced availability of shipping containers and UK-wide fuel queues close to Christmas put a further burden on the recycling sector and exacerbated an already difficult situation. Record high energy prices, combined with price growth and significant increases in logistics costs, drove up PfR prices.

The paper manufacturing landscape changed. UPM Shotton, which has been producing newsprint since 1983, ceased production at the end of October. The site was sold to Eren Paper Ltd and their investment will include a 650,000 tonne containerboard machine and capacity for the production of 210,000 tonnes of tissue reels with a combined off-take of nearly one million tonnes of PfR. The continued demand for market pulp in the Far East and the start-up of major new manufacturing capacity in Germany also drew material away from UK mill buyers.

On the production side, capacity changes in both the tissue and newsprint sectors started to affect output, with the total UK paper production estimated at 3.64m tonnes in 2021, a marginal increase (0.2%) on the previous year. The graphics sector showed signs of recovery, but corrugated case materials and the tissue sector showed a decline. Demand for paper and board grew for the first time in 15 years, increasing by 2%. Waste arisings for paper and card showed a marginal increase of 0.7%, but still well below the 2020 figures.

Mill consumption of recovered paper showed a decline of 1% impacted by the closure of the UPM Shotton mill and a quieter final quarter for the corrugated sector. Whilst domestic prices kept rising, recovered paper imports showed a decline from the higher levels seen in 2020, but still above historic averages. Despite the logistical challenges, recovered paper exports jumped an estimated 4.3m tonnes (12%) on the previous year with a good

mixture of destinations between the Far East and Europe. Collections showed significant growth of 7% compared to 2020 and provided a yield of 7.1m tonnes. The growth in collections has significantly outweighed recovery in consumption, and in 2021, after a drop in 2020, the UK paper and board recycling rate rose to 71.1%, a 4% increase, and the highest recycling rate recorded.

Aside from the challenges and opportunities posed by the market, the first quarter of 2021 saw Government proceeding with the second round of consultations on proposals to move to Extended Producer Responsibility (EPR), introduce Consistent Collections of recyclables, and a Deposit Return Scheme (DRS). The Government consultations are a precursor to a once in a generation opportunity to change recycling systems and recalibrate packaging design, and CPI's response clearly set out the industry's position. The industry was generally supportive of the proposed initiatives, which have the potential to improve both the volume and quality of materials, especially Government's proposal to collect paper and board separate from other dry recyclables. One issue that emerged from the Consistency of Collections consultation was the absolute necessity for the UK collection system to produce a high-quality output and adapt collection systems to achieve this. Another area of concern in the consultations highlighted to CPI members, was the administration of business collections of household-like recycling under the EPR system, which could undermine business opportunities.

Another element of the proposed EPR system will be a mandatory labelling system for all consumer packaging, which will provide clarity on what can and cannot be recycled. Government intends to delegate the appointment of labelling providers to a new EPR scheme administrator, who will be responsible for managing the scheme on behalf of producers. For a labelling system to be implemented on a packaging item, there is a requirement to determine its recyclability based on its composition, whether it can be collected for recycling, and if a secondary market exists for it. As the four UK Governments affirmed their commitment to a standard and binary labelling, there will be a need for a more definitive methodology for determining recyclability. As a support mechanism for the forthcoming changes to the EPR system, CPI developed a Recyclability Assessment Method (RAM) tool for fibre-based packaging products. RAM has been developed around industry and Government requirements aiming to support the new EPR scheme administrator and labelling authorities in determining the recyclability of paper and board packaging. In early 2021 CPI created Papercycle Ltd as a vehicle for delivering RAM, which will be closely aligned with the work undertaken by the Confederation of European Paper Industries (Cepi) under the 4evergreen project. RAM will also be an invaluable tool for a fee modulation system for EPR, by differentiating easy to recycle items from more challenging ones. CPI continues to play an active role in supporting the industry and presenting an industry solution to Government and other stakeholder groups.

2022 saw growing interest in the environment at political and citizen level, with pressure continuing on the packaging supply chain to demonstrate the sustainable credentials of products placed on the market. CPI's Paper Packaging Recyclability Guidelines continue to contribute towards packaging optimisation; they remain an important document for those specifying fibre-based packaging and offer an aspirational summary of what the high volume, standard recycling mills would prefer as feedstock. As a desire for greater detail and demand from brands and retailers continues to grow, CPI will be producing a revised version of the guidelines in 2022.

> *Looking back and reflecting on my first three months at CPI, there are a few areas that quickly stand out. Firstly, Papercycle, once launched, will offer a great opportunity for the Paper Industry to take control of the process of defining the recyclability of paper and board products. Secondly, the long-awaited Defra response to industry feedback, will steer the industry towards a quality-focused approach to recovering fibre-based products. Last but not least, the positive and productive relationships with CPI members and colleagues, and wider partners and the warm welcome I received from everyone at CPI. There are still many uncertainties and no doubt the future will bring quite a few challenges; however, I'm looking forward to the opportunities and positive changes the upcoming months will bring.*
>
> **Dimitra Rappou,** *Director of Recycling*

INFORMATION AND EXPERT GUIDANCE

Information and guidance is available, via Employment Affairs, to CPI member companies on working arrangements, dispute resolution, annual hours, organisational change, and general HR topics.

Employment Affairs provides advice and guidance on the interpretation and application of the National Agreements in the Corrugated and Papermaking sectors. On behalf of the industry and for the CPI members that conform to the agreements, Employment Affairs leads the annual negotiations between the industry and unions on pay and conditions. In addition, the dispute resolution procedures within the National Agreements continue to provide significant benefit for the conforming sites in securing resolution to impasses.

As well as keeping up to date on general economic data and data on pay settlements, Employment Affairs continues to maintain good working relationships with the unions' national and local representatives. Working in partnership with members and the unions, and within the framework of the National Agreements, Employment Affairs plays an important role in resolving Members' industrial relations issues, so helping to maintain the industry's good industrial relations record.

DEFENDING AND PROMOTING THE INTERESTS OF THE INDUSTRY

Perceptions of 'cardboard shortages' – engaging with national media

Over the last two years the corrugated industry has faced some exceptional circumstances. A number of macroeconomic issues have impacted on manufacturing in general, including the implications of the COVID-19 pandemic, Brexit, and the shortage of HGV drivers. In addition to this, the intermittent lockdowns have changed the way that many of us shop, bringing about an e-commerce and home delivery boom which has seen more cardboard packaging than ever entering consumers homes.

The widespread adoption of online shopping has been more widespread in the UK than other European markets. Industry statistics suggest that two thirds of us have increased our online shopping during lockdown and more than three quarters of that group expect to continue at these levels in the future.

National media has picked up on these market trends and there has been media coverage on the perception of cardboard shortages across the country. Throughout 2021, we have engaged with a number of national media outlets including The Sunday Times, Telegraph and the Daily Mail, explaining that these recent events have resulted in an imbalance in supply and demand but that circumstances are changing, and steps are in place to address the matter. While the global position remains volatile, there is now clear evidence of a settling in the cardboard market in the early months of 2022.

Reusable plastic packaging – a formal complaint to the Advertising Standards Authority (ASA)
The debate between reusable plastic packaging and recyclable corrugated is not new, and much has been said on both sides. While we accept the right of every organisation to promote their own business with paid advertorial, there are limits to what can be considered acceptable.

In an advertorial published by a high profile and respected trade magazine, a particular reusable plastic tray manufacturer made several misleading, biased, and inaccurate claims relating to corrugated cardboard and, after explaining our concerns but not receiving a suitable response, we proceeded to lodge a formal complaint with the ASA. Ultimately the ASA opted not to uphold our objections and took no action, but we have drawn a line in the sand and made clear that we are prepared to act when circumstances dictate.

Presentations to customer and other associated Trade Associations
CPI is commonly asked to speak at other Trade Association events, advising them on the latest developments in the corrugated industry and answering questions from customer organisations.

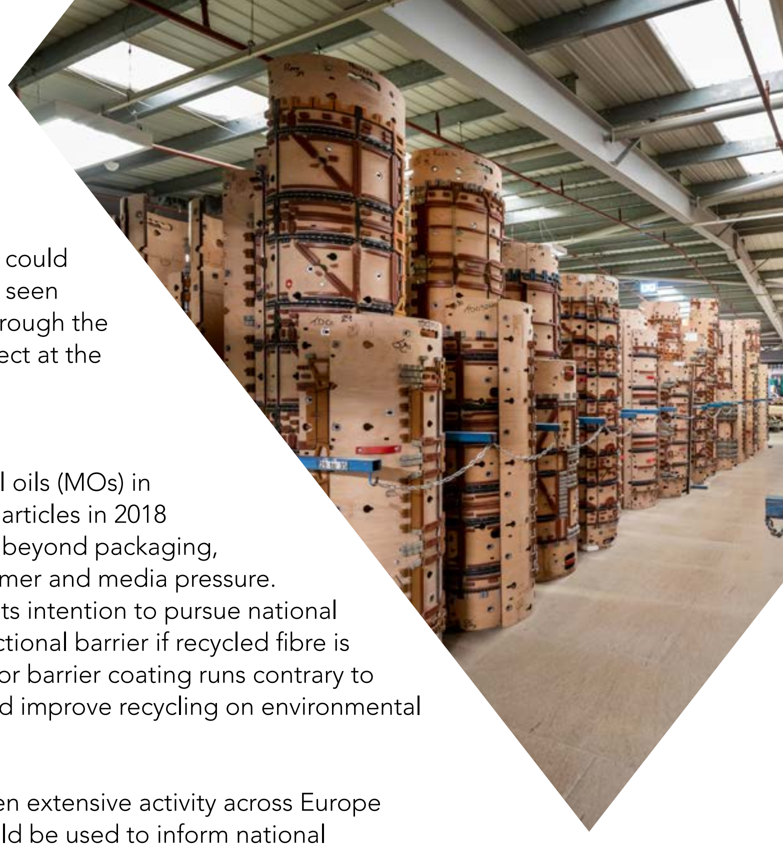
The British Frozen Food Federation (BFFF) is a trade body focused on the frozen food industry, with over 200 members including retail and manufacturing and a membership turnover exceeding £40bn. CPI was approached by the BFFF with a request that its Packaging Technical Committee be updated on recent developments in the world of paper packaging. We covered an overview of market trends and moves towards greater recyclability, but it also gave us the opportunity to raise awareness among its members of our key promotional messages.

We are also pleased to work with the Sheet Plant Association (SPA), which represents independent corrugated cardboard manufacturers. Throughout the COVID-19 pandemic we have exchanged information to keep them informed, enabling us to bring the views of the broader industry to Government. More recently we have been pleased to return to their face to face Conferences, to update their membership on our "Beyond the Box" promotional programme and regulatory work.

REGULATORY ACTIVITIES

Following the development of EU packaging legislation
We are in a period of some political turmoil as the ramifications of Brexit become clear and we identify which legislation remains in force, either formally or by default. There are several pieces of EU legislation that are being amended which we are still following including the Single-Use Plastics Directive (SUPD), the Packaging and Packaging Waste Directive (PPWD), and the Waste Framework Directive (WFD). The development of the EU Green Deal may also impact upon the UK.

In each case, even now that we are no longer formally bound by the EU, it is important that CPI follows these developments as the UK Devolved Administrations have declared an aspiration to go beyond the environmental targets of England and are looking to Brussels for their lead.



Over the course of the last year, it has become clear that the EU is moving beyond single-use plastics towards restrictions on single-use packaging, favouring reusables which could directly affect paper. We have already seen such developments reflected in UK through the Environment Act, which came into effect at the end of 2021.

Mineral Oils – Germany
We have followed the topic of mineral oils (MOs) in recycled fibre for some years. Several articles in 2018 recognised the other sources of MOs beyond packaging, which played a role in diffusing consumer and media pressure. Then, in mid-2020, Germany notified its intention to pursue national legislation, essentially requiring a functional barrier if recycled fibre is used. We note that any requirement for barrier coating runs contrary to other moves to simplify packaging and improve recycling on environmental grounds.

Over the last 18 months there has been extensive activity across Europe as industry agreed a position that could be used to inform national authorities about the challenges this brings to the Paper and Board Industry. Throughout, CPI was in contact with the Food Standards Agency (FSA) and subject to the requirements of Brexit we have made what responses we could to support an industry position.

Germany has indicated its clear intention to proceed and, with their authorities considering that all objections have effectively been addressed, it is now expected to be adopted during 2022. While this is currently only for Germany, the importance to UK industry is recognised as it may set a precedent for other action at national level.

Fluorinated chemicals
These chemicals, known as PFAS, have historically been used for grease and moisture resistance in packaging. In the UK we have established that the vast majority of our members do not intentionally use PFAS chemicals (there are minor exceptions), but some NGOs have stated that they have evidence that these chemicals are still in use on retail shelves and in fast food outlets. It appears that some products made outside of our membership, and possibly imported from abroad, may still be using these chemicals.

ENGAGING WITH EXTERNAL STAKEHOLDERS

Advisory Committee on Packaging (ACP)
The ACP is a broad forum established by Government department Defra to advise on packaging issues, with representatives from raw material and converter associations, brand owners, retailers, local Councils, and the waste management industry. This group has been instrumental in the development of the Government consultations on extended producer responsibility (EPR) and deposit return schemes (DRS), and provides a direct voice into Government at high level.

Quarterly meetings have proved very constructive, and CPI was pleased to be able to bring the opinions of the paper packaging and recycling industry to Defra at a series of meetings through 2021. We will continue our engagement as the new Packaging Regulations are brought into effect in the coming years.

BRCGS Standard for Packaging Materials
The BRCGS Standard for Packaging Materials was originally developed to provide a common basis for hygiene certification, and it provides a framework for all packaging materials, with a certification that is recognised by many brand owners and retailers.

The Standard has been updated on a number of occasions; a process overseen by its Technical Advisory Committee (TAC). CPI has a seat on the TAC to represent the paper packaging industry. In meetings throughout 2021 we addressed the implications of lockdown on scheduled audits and considered new Position Statements that clarify points in the Standard.

Our participation in the TAC is proving useful and we look forward to further meetings to improve our engagement with the packaging standard.

FEFCO and CITPA
CPI is an active member of the European Association for Corrugated Packaging, FEFCO, participating in its General Assembly (GA), National Directors' Committee (NDC), and the Regulatory Affairs Committee (RAC). In addition to being able to influence the governance of FEFCO activities, this also provides valuable input to the national Regulatory work.

FEFCO also hosts a number of events for the industry, which we have been pleased to promote to our membership, including:

- An online workshop entitled *"Sophisticated fortune telling - monitoring and controlling our production process"*, a technical event that focussed on process control across the industry, with an exchange of good practice in a workshop format
- The Technical Seminar in Copenhagen (October 2021) *"Towards intelligent manufacturing - the digitalisation of the corrugated industry"* was a very successful three-day physical event, bringing together key corrugated industry decision makers and their suppliers, including a mix of conference and spotlight sessions and the exhibition
- A Summit in Amsterdam in May 2022 that brought together CEOs and senior Directors from across the global corrugated industry, to consider key topics for the future. The programme included observations on retail and e-commerce from significant brand owners, addressing the EU Green Deal, recognising the circular nature of corrugated, and moves to decarbonise the industry and net zero by 2050.

CITPA is the International Confederation of Paper and Board Converters in Europe, and represents the interests of the European Paper and Board converting industry, promoting the value of paper and board as sustainable materials.

Membership comprises a number of national Trade Associations, as well as material associations at European level for sacks, cartons and labels, uniting a paper converting industry across Europe with an annual value of €60 billion.

CPI has been a member for some years and, with effect from 2022, joins the Board of Directors to lead in the governance of the organisation.

COMMUNICATING THE BENEFITS OF CARDBOARD TO THE PUBLIC WITH "BEYOND THE BOX"

In recent years, society has become increasingly aware of the environmental impact of its activity and packaging has often been in the spotlight. We maintain that not all packaging is equal, and the consumer can make a choice in the materials they use. Cardboard comes from a renewable resource and has a superb recycling record.

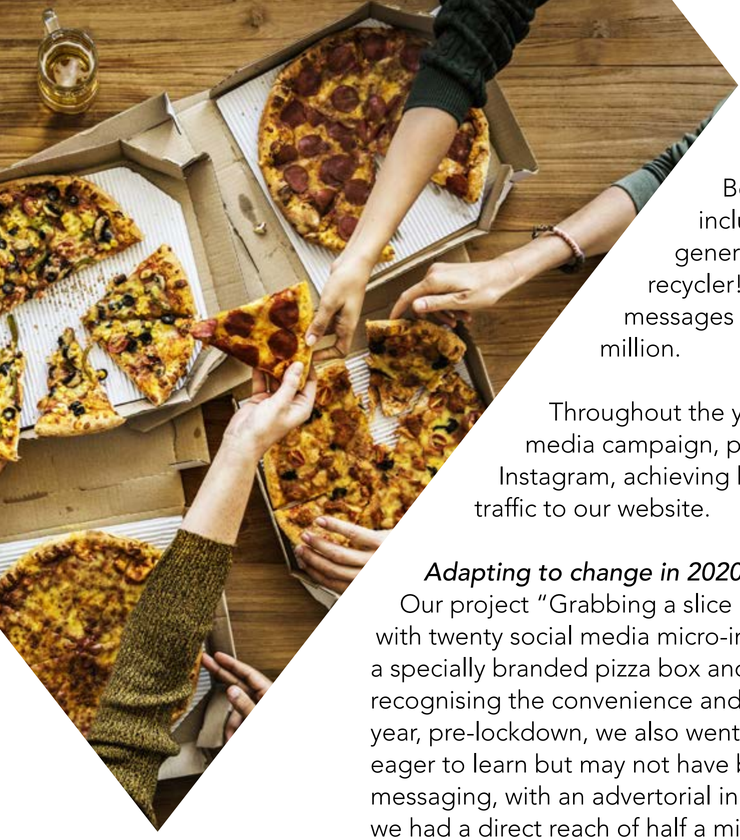
The 'Beyond the Box' communications programme was established in 2018. CPI identified the need to better inform the general public about the environmental credentials of corrugated (cardboard) packaging as society became more conscious of the impact of some alternative materials.

The intention was to improve our position, placing ourselves in the national press and other media in ways that the corrugated cardboard industry had never previously done. Over the last few years we have led a wide range of targeted projects including press releases to national media, engaging social media influencers, youth outreach, radio interviews, cardboard sculptures, and popular consumer 'Vox Pop' videos.

The launch in 2018
The programme was launched with a Parliamentary Reception, an associated White Paper which outlined our messages, and a cardboard bust of Winston Churchill that was covered in the national press. Other highlights in the first year included a video to coincide with Recycle Week, which was also picked up nationally. We built the website and started the process of engaging high profile social media influencers.

Picking up the pace in 2019
Early in our second year we commissioned a larger-than-life size cardboard sculpture depicting the ancient Greek figure, Atlas, and his fabled globe, to mark Global Recycling Day. The image proved popular, and photographs of our sculpture were carried in a range of national papers to an audience of 100 million.

Later in the year we hosted a radio day to coincide with Recycle Week. Having commissioned a light-hearted consumer research story to explore social pressures and identify how conformity influences consumers'



sustainable behaviours, we appointed an accredited psychotherapist, Dr Becky Spelman, to analyse the research, including the fact that 21% (of the younger generation) would not consider dating a non-recycler! A total of 14 radio interviews put our messages out to an audience of more than 1.25 million.

Throughout the year we undertook an extensive social media campaign, posting every fortnight on Facebook and Instagram, achieving high levels of engagement and driving traffic to our website.

Adapting to change in 2020
Our project "Grabbing a slice of the Recycling Action" saw us engage with twenty social media micro-influencers, each one presented with a specially branded pizza box and invited to develop their own post recognising the convenience and recyclability of cardboard. Early in the year, pre-lockdown, we also went out to a younger audience who are eager to learn but may not have been reached by our other cardboard messaging, with an advertorial in youth magazine 'First News'. Together we had a direct reach of half a million consumers.

Adapting to the circumstances arising from the first lockdown, "Green in Quarantine" enabled us to conduct research to explore consumers' attitudes to recycling during lockdown, developing a compelling news release which we pitched to media with a focus on radio. A successful radio day saw nine radio interviews that were broadcast across 31 radio stations to an audience of 1.9 million, up 58% on the 2019 radio day.

Following the social moves for improved environmental performance, "How Sustainable is your Shop?" enabled us to delve into UK shopping trolleys to find out what motivates purchase when people are in the supermarket, conducting consumer research and creating a vox pop-style video hosted by food sustainability expert, Louise Symington. The video featured members of the public discussing their own experiences of shopping sustainably. We also engaged with PaperBoyo, a creative online artist, achieving coverage through his Instagram account and in national media.

To close the year, our "Celebrity Sustainability Hero of the Year" award involved a public vote. The winner, Sir David Attenborough, was presented with a cardboard bust of himself.

Overall, we had a strong year in 2020 with a potential reach of over 350 million and a programme that adapted to circumstances given the requirements of the COVID-19 pandemic.

Building on our success in 2021
Under the heading "Happiness all boxed up", consumer research was undertaken to identify the link between green behaviour and our happiness levels. A survey was carried out and a press release issued alongside a punchy 'Vox Pop' video, all released in time for Global Happiness Day.

We moved on to address upcycling and the importance of demonstrating creativity and artistic development as the continuing lockdown saw an increasing level of interest in DIY, with upcycling becoming more important. A number of social media micro-influencers received samples of corrugated cardboard for their upcycling projects; we also engaged TV celebrity Max McMurdo as our lead upcycler designing an attractive table and chairs set for summer.

Lockdown, and the many other impacts of the pandemic, have presented difficulties for all sectors of society and manufacturing, and towards the end of the year we created a new campaign recognising these impacts. We conducted consumer research into how much cardboard Brits are hoarding in their homes, generating a press release for major titles to coincide with Black Friday and the run up to Christmas, reminding everyone of the importance of recycling. We achieved broad coverage in a number of national titles and this project alone went out to a reach of one million consumers.

Social media own channels
In 2021 we launched our first ever dedicated Beyond the Box Instagram and Facebook channels, creating a permanent social presence for our campaign (previous work had involved 'dark posting', placing our message in other consumers' timelines). Consumers can now follow us at: **Instagram.com/beyondtheboxuk** and **Facebook.com/BeyondTheBoxUK**

Our extensive reach via social media, with an average of 218k views per month, put us in front of almost two million following the online launch of own channels in April.

Looking ahead into 2022
We will continue to recognise the importance of recycling, encouraging consumers to help us to make new boxes from old ones. A further four quarterly peaks of activity will address barriers to recycling:

- "Bad Habits" (remembering to recycle). Partnering with a psychologist and looking to develop a press release and conduct a radio day.
- "Waste of Space" (unsightly mess). Getting social media influencers involved, tasking them to beautify their recycling areas, inspiring consumers to get involved.
- "Quizzing the Nation" (ongoing confusion). Conducting research and quizzing the nation on the most confusing topics, using this research to develop a press release for national media, with a video to be shared with the press release and hosted on social channels.
- "Cardboard heroes" (celebrating success). After three quarters' activity focused on breaking down barriers, we will seek to end the year by celebrating success. As community has become more important, we plan to champion the UK's 'greenest town', crowning the champion in a local ceremony with regional media.

As society looks in ever more detail at the environmental impact of its behaviour, our message is simple, that there is a choice, and that cardboard packaging brings a huge range of environmental benefits including renewability and recyclability. The "Beyond the Box" campaign is already playing an important role in educating the general public and we look forward to developing this programme for many years to come.

www.cardboard.org.uk

CPI TIMELINE 1992-2021

1992
Output of paper passes 5 million tonnes in a year. CEPAC (Confédération Européenne de l'Industrie des pâtes, papiers et cartons) and EPI (European Paper Institute) merges to become the Confederation of European Paper Industries (CEPI).

1994
The British Paper and Board Industry Federation changes its name to The Paper Federation of Great Britain.

1995
UK production exceeds 6 million tonnes for the first time.

2000
The Confederation of Paper Industries is founded as an 'association of associations'.

2002
UK production is 6.2 million tonnes, with a further 7.5 million tonnes imported. The number of mills in production is 84 with 18,000 employees.

2004
From January, CPI moves from being an association of associations to one of direct company membership.

2015
Recovered paper collection peaks at approx. 8 million tonnes.

2020
Country goes into lockdown due to COVID-19 causing the demand of toilet tissue to hit an all-time high. The UK's Paper-based Industries are recognised by UK Government as a key sector during the pandemic.

2021
Production of paper is 3.64 million tonnes and the number of UK paper mills in production is 47.

Corrugated cardboard packaging once again proves its value to society. As we all need to order more online in lockdown, e-commerce (home delivery) packaging increases by 52% in 2020 compared to 2019.

PUBLIC AFFAIRS

Two years ago, at the beginning of the COVID pandemic, we would have never believed that the virus would have such a profound impact on our lives and livelihoods. The whole world has been disrupted in this period and we have had to adapt to a new way of living. With all restrictions now lifted, we are now returning to some normality.

The UK's Paper-based Industries should be proud of their response throughout the pandemic. At a time of international crisis, the majority of the industry continued working through the various lockdowns producing items including food and medicine packaging, and hygiene products for the NHS. Other workers in the industry continued the essential work of paper recycling across the UK. The industry was rightly recognised by Government early on as an 'essential industry.' As we return to normality it is vital that the industry continues to play a leading role in the UK economy, and that its importance is recognised.

As the UK Government works to "Level Up", the jobs that our industry provides will be shown to be of great importance. As the nation seeks to rebound from the pandemic, the protection and growth of jobs must be at the heart of this work. The UK's Paper-based Industries welcome the Government's plans to achieve net zero by 2050, and the Energy Security Strategy, however we want to work with Government to ensure that the industry has the required support, and that we do not de-industrialise by decarbonising.

The CPI team is in regular contact with its members, listening to their concerns and raising any relevant issues with Government and Political Stakeholders. Further to this we provide information and detailed analysis of Government Guidance and Policy.

POLITICAL ENGAGEMENT

Over the past year we have continued to grow our political engagement.

As well as attending regular meetings with the Department for Business, Energy and Industrial Strategy (BEIS) we have met with BEIS Minister, Lee Rowley MP, numerous times both in person and virtually. In these meetings, Director General Andrew Large has kept the Minister up to date on the current state of play for the industry and flagged any relevant concerns.

CPI has also engaged with the Shadow BEIS Ministerial Team, raising the key challenges for industry, including decarbonisation and the energy crisis. We have had a positive dialogue and look forward to welcoming the Shadow Team to a member site to provide more information about the working of the industry. We will also be engaging with the Labour Policy formation process to ensure the voice of our industry is heard.

We have met with Parliamentarians of all parties both in person and virtually, including Mark Jenkinson MP, Jacob Young MP, Simon Fell MP, Dr Alan Whitehead MP, Bill Esterson MP, Jonathan Reynolds MP, and Ruth Jones MP. We continue to focus on the new crop of Conservative MPs who represent industrial communities, as well as Members of Parliament with papermaking or conversion sites in their constituency.

In 2022 several Parliamentarians attended our inaugural Paper Industry Gold Awards in the House of Lords, a prestigious event to recognise and showcase the many achievements of our industry. Amongst the attendees were Mark Pawsey MP, Chairman of the APPG on Packaging; Ruth Jones MP, Shadow Minister for Environment, Food and Rural Affairs; and Bill Esterson MP, Shadow Minister for Business and Industrial Strategy. Representatives from across the industry got the opportunity to speak with Members of Parliament at the event about the excellent work of the sector, as well as the challenges faced.

We continue to engage with the work of the select committees, responding to numerous relevant enquiries; most recently we have submitted a response to the BEIS Select Committee enquiry on energy pricing and the future of the energy market, and Andrew Large recently gave evidence to a House of Lords Committee.

CPI is a member of the Energy Intensive Users' Group (EIUG), and Andrew Large chaired this group until September 2021. Through our membership of this group we engage with Parliamentarians through APPGs, and have attended meetings with the Secretary of State for BEIS, Kwasi Kwarteng, to represent the views of the industry. This partnership was particularly important during the recent energy crisis, where a joint approach added further weight to arguments being made.

PUBLIC AFFAIRS STRATEGY

For 2022/23 CPI has put together a Public Affairs Strategy. This document outlines CPI's key campaigns for the coming year, which are: Investment, Energy Prices, and Sustainability and the Environment. These areas have been identified by members as key priorities for industry. The strategy also builds on the results of a Reputation Audit which assessed our political impact and influence. It praised our recognition with stakeholders and face to face contact with Parliamentarians. The priorities set out below show where we most wish to have an impact.

Investment

CPI wants to work with the Government to protect and strengthen the UK's Paper-based Industries. Investment in the industry must focus on building skills and unleashing opportunity, through schemes including apprenticeships and training, creating the best possible labour market. The industry wants to see an increase in productivity, which means that a strong work force is required. Technology is also vital in ensuring that the industry is effective and fit for the future.

A fair transition to net zero is an important part of ensuring a level playing field for Energy Intensive Industries, like the UK's Paper-based Industries.

Energy prices

In recent years, CPI has played a leading role in advocating for more competitive UK energy costs. CPI has been a key player in the Climate Change Agreement process and agreeing challenging, but achievable targets for industry.

It is critical for the long-term future of the Paper-based Industries that they can access competitively priced energy. CPI continues to urge Ofgem and BEIS to accept that policy costs and taxation are combining to make UK industrial electricity the most expensive in Western Europe, and to act on that insight to reduce industry bills.

All parts of the sector are currently wrestling with the significant increase in energy costs, as papermaking is intrinsically energy intensive. Cost increases of the current magnitude are not sustainable and, at the time of writing, there is no sign of when the current gas price crisis will end. CPI believes that the Government therefore needs to act urgently to address the crisis and prevent production being disrupted and longer-term damage to companies.

Sustainability and the environment

CPI is focused on influencing the future direction of all aspects of environmental regulation in the UK. With much of the UK's Paper-based Industries being covered by the requirement to have Environmental Permits for their operations, development of a future permitting regime is a critical priority for our sector. Other key priorities include water, with current developments in the regulation of abstraction and management of water resources.

A primary focus will be work around the sustainability of paper-based products, which are recyclable, biodegradable, and ultimately renewable. The UK's Paper-based Industries understand the role that reusable products have to play, but this risks unintended environmental damage if change is not backed up by robust evidence on issues such as carbon emissions, marine pollution, and recycling. Indeed, the transition away from single-use plastics calls for suitable, sustainable paper-based alternatives.

These campaigns are the public affairs priorities for CPI in its engagement with key stakeholders including Government Ministers and Parliamentarians. The campaigns have been shaped by the views and priorities of CPI's membership, based on the current challenges they face and how policy could be shaped to improve their position. The campaigns will focus our political engagement, around who we target and the arguments we are presenting. They build upon the work we have been doing for many years, and further reinforce our position statements.

Pulp and Paper Information Centre (PPIC) 1990-2000 - The Industry's Response to Changing Times

I joined The Paper Federation, along with nine other women, when it moved from London to Swindon in 1988. I think it's fair to say that it was a rather traditional organisation at that time.

Among forty plus members of staff I was the only female manager. On our first day at Papermaker's House the location of the nearby supermarket was helpfully pointed out so that we could shop for our husbands' supper. Even in 1988 this did not go down well with everyone.

Throughout the 1980s the environment, most especially industrial environmental impact and raw material usage, became a major issue. The Paper Industry was thrust into the media spotlight and its response was described by one journalist as being "like a rabbit caught in the headlights".

PPIC was established in 1990 primarily to provide balanced information to customers, opinion formers, legislators, academia, and the general public.

Over the next ten years PPIC produced fact sheets, position papers, magazine articles and videos as well as responding to thousands of enquiries. It developed and ran ad-hoc campaigns with domestic and overseas paper-related organisations, for example newspaper publishers, and exhibited at trade fairs, the House of Commons, and all of the major parliamentary Annual Party Conferences.

PPIC operated throughout a decade of change and during this time the Paper Industry changed too, becoming proactive rather than reactive and informative rather than defensive. PPIC was the first major Paper Industry initiative of its kind, but certainly not the last, the most notable example being CPI.

Kathy Bradley *former Manager and Director PPIC*

COMMUNICATIONS

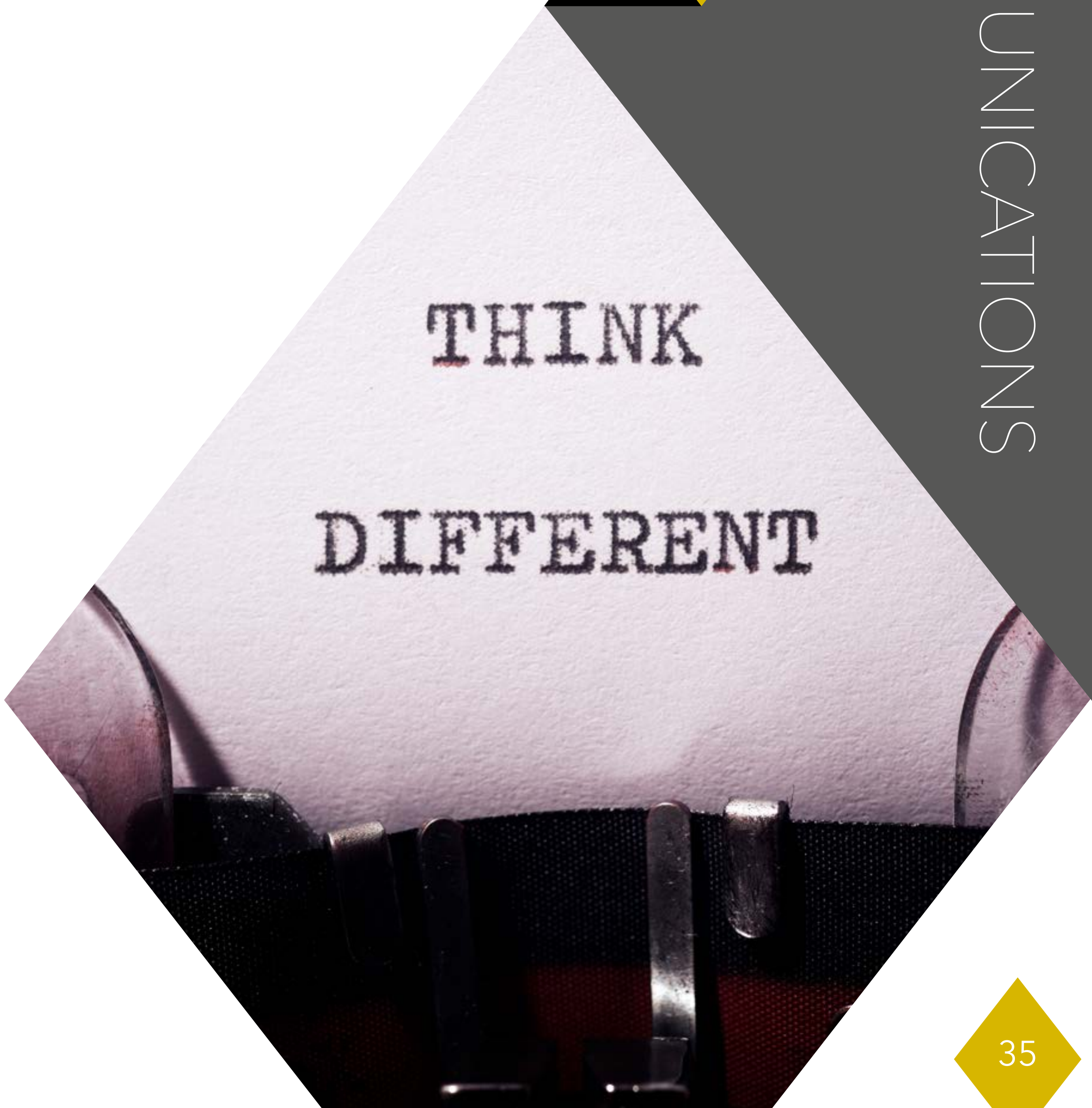
It's hard to imagine communicating at all these days without the use of the internet, but good old fashioned 'pen to paper' certainly worked for Sir John Evans when he sent a circular to all papermakers in Britain inviting them to attend the meeting which formed The Paper Makers' Association of Great Britain 150 years ago.

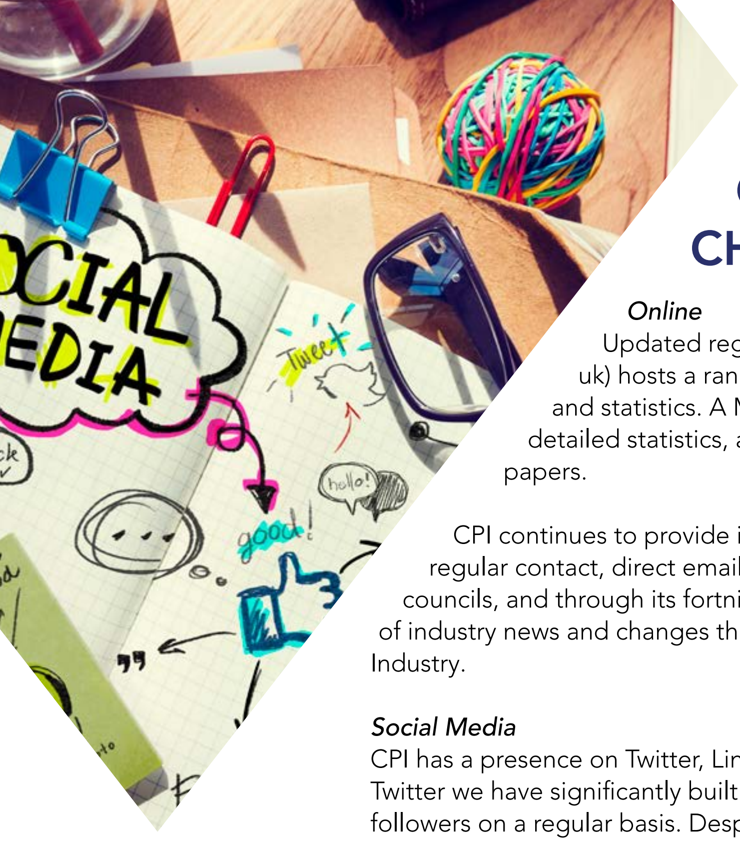
It's also hard to imagine, and doesn't seem that long ago, that all our communications to members were sent out in hard copy. 'Pigeon Holes' were allocated for all members where letters and memos would be collated and posted every few days.

Letters formed a huge part of how we communicated, and this was very evident when the Pulp and Paper Information Centre (PPIC) was established in 1990. PPIC was set up in response to the need to provide a central source of information about the Pulp and Paper Industry. It was led and run by an all-woman team, and in its first five months of opening, the centre received over 50,000 enquiries (by letter and telephone). Funded by organisations representing the Pulp and Paper Industry including The Paper Federation; the British Wood Pulp Association; the Paper Agents Association; the National Association of Paper Merchants; and the Canadian High Commission, the PPIC played a key role in encouraging unprecedented all-sector co-operation across the Paper Industry.

We cannot argue that the way we communicate has changed drastically over the years, and with the introduction of email and internet, letters became few and far between. One huge advantage of the internet is that it allows us to disseminate our messages quickly and effectively, and after a decade of successfully raising the profile of the Pulp and Paper Industry, it was announced in early 2001 that the PPIC was to close.

The Paper Federation website retained all the information that the PPIC had accumulated, and this method of communication became, and still is, the main vehicle of communicating to the outside world.





OUR COMMUNICATION CHANNELS TODAY

Online

Updated regularly, the CPI website (www.paper.org.uk) hosts a range of information, publications, news, and statistics. A Members Only section houses more detailed statistics, as well as access to committee meeting papers.

CPI continues to provide information to its members through regular contact, direct emails, member briefings, committees and councils, and through its fortnightly newsletter which informs them of industry news and changes that could affect any aspect of the Paper Industry.

Social Media

CPI has a presence on Twitter, LinkedIn, Facebook, and Instagram. On Twitter we have significantly built our political following and engage with followers on a regular basis. Despite Twitter being our most dominant channel, we continue to post regularly on all our channels.

Publications

Whilst digital methods of communication hold a vital place in our communications strategy, printed publications are just as, if not more, important. There is something aesthetically pleasing about the textures, the feel, and the smell that paper brings – and this Annual Review brings all these elements together.

CPI published its third Economic Value Report in September 2021. The detailed report paints a picture of the status of the UK's Paper-based Industries and sets out the challenges and opportunities.
We also updated a number of our Position Papers and Fact Sheets, including a Position Paper on the UK Pulp & Paper Sector Decarbonisation Roadmap, taking into account new policy changes and the latest research into decarbonisation technologies. Alongside the update to the Roadmap, CPI also commissioned independent experts, Cornwall Insight, to further consider the practicality and economics of switching from gas to grid electricity in UK paper mills.

Early in 2022 CPI produced a Paper Sector Guide to producing a Fire Prevention Plan. Written by CPI, Members and Stakeholders including the Environment Agency, the guide is directly applicable to all sites that currently hold an EPR permit which includes handling and storing paper for recycling, and for any other site that may require a permit in the future.

In the Press

As well as a general presence in the trade press, CPI spokespeople were in high demand in October 2021 when soaring energy prices hit the headlines. CPI and some of its members received considerable press coverage including television interviews by BBC, ITV, Sky, CNN, and Channel 4. We also had interviews with radio programmes, including BBC 4's Today programme. We received substantial coverage in the majority of national news (either online or print), and in the trade and political press.

The communications story is still unfolding

Effective communication has always been a key to healthy relationships and we certainly didn't expect the COVID-19 pandemic to change the way we communicate as quickly as it did. We very quickly switched from regular face to face meetings to none at all; thus virtual meetings took over, and we all needed crash courses in Zoom and Teams.

The changes we have all been through during the pandemic demonstrate how we have an incredible ability to adapt as human beings. As we now return to a reasonable level of normality, we are finding that whilst we do want and need that face to face interaction, on a practical level some virtual meetings will remain important and may still continue for some time. Moving forward will likely bring a mix of the two – it will be interesting to see how the story unfolds.

Connect with us:

- www.paper.org.uk
- facebook.com/Confedofpaper
- twitter.com/@Confedofpaper
- linkedin.com/company/confederation-of-paper-industries
- instagram.com/paper.uk_/

REVIEW OF DATA 2021

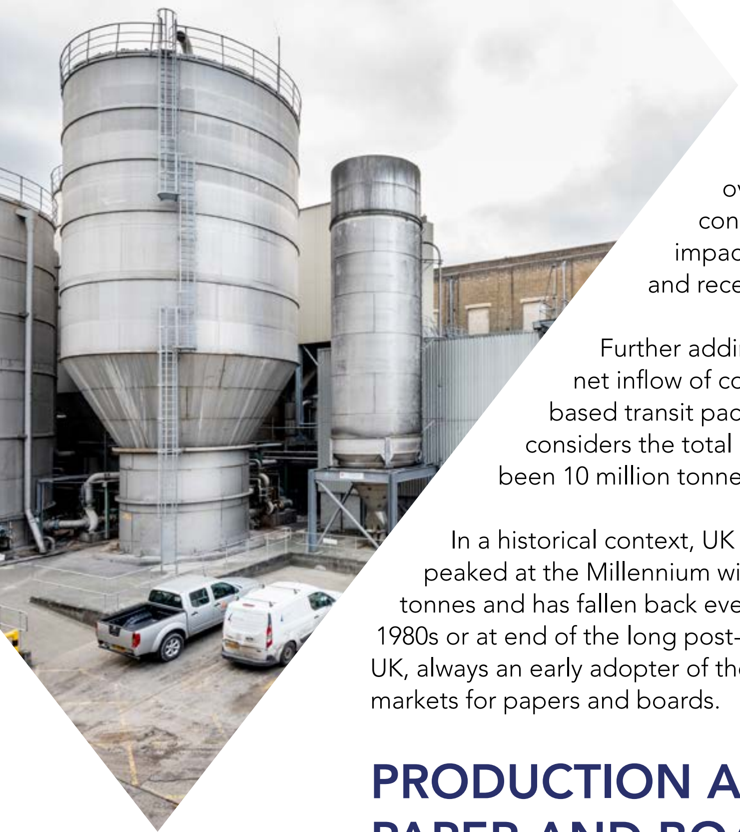
UK paper and board markets played to their strengths with an excellent year for the Packaging sector, building on growth that developed despite two national lockdowns and a severe recession. And whilst demand for Tissue stuttered slightly, this is likely to be temporary, as recent investment announcements in this sector suggest future domestic growth. The Packaging sector will also see further largescale investment which should reduce the UK's continuing reliance on exports of recovered fibre for others to recycle to absorb paper and board consumption that the UK is currently unable to reprocess at home. Recovered papers excepted, there is some early evidence of a decline in both import and export trade flows for paperboard, though whether due to the global pandemic or Brexit is still too complex to determine.

As CPI celebrates the 150th anniversary of its ancestor associations, the paper and board sector has shown itself again to be an integral part of the UK's economy at times of national and international stress, responding easily to greatly varying demand for packaging and tissue products and ready to resume supply of other grades as the world's economies have re-opened, and will hopefully continue to do so for the foreseeable future.

APPARENT CONSUMPTION OF PAPER AND BOARD

Apparent consumption of papers and boards achieved some growth for the first time in a decade as the UK economy continued to recover from pandemic-induced recession. In total, demand rose to 7.48 million tonnes, a 2% increase compared to 2020. Although modest in the context of rising UK GDP, it reverses a long downward trend last interrupted when the UK moved out of recession following the financial crash of 2008 and 2009.

The Packaging sector led the way with an increase of almost 6%. Demand for Corrugated Case Materials rose by over 9% to 2.73 million tonnes, benefiting from the second lockdown shopping boom of the Spring. Furthermore, whilst non-corrugated packaging boards fell back slightly, packaging papers saw double-digit growth as large parts of the economy re-opened. In addition, there was a welcome return to growth in the Printings & Writings sector, with a 1% increase compared to 2020, to finish the year at 1.69 million



tonnes. Meanwhile, demand for parent reels in the Tissue sector declined by over 4%, a slightly incongruous result, considered by CPI to be the continuing impact of disruption to the hospitality sector and recent stockpiling of tissue products.

Further adding to apparent consumption and the net inflow of converted paper products and paper-based transit packaging around other commodities; CPI considers the total UK market for paper and board to have been 10 million tonnes in 2021, a rise of 0.7%.

In a historical context, UK consumption of papers and boards peaked at the Millennium with a consumption of some 16 million tonnes and has fallen back ever since to levels last seen in the early 1980s or at end of the long post-war boom in the 1960s. Nevertheless, the UK, always an early adopter of the new, remains one of the world's largest markets for papers and boards.

PRODUCTION AND DELIVERIES OF PAPER AND BOARD

A modest increase in paper and board production led by a recovery in the Graphics and Specialities sectors was offset by a fall in deliveries, particularly to domestic markets as the Tissue sector contracted slightly.

Production of Corrugated Case Materials declined marginally to 1.52 million tonnes, a fall of no more than 5,000 tonnes (-0.3%). The Tissue sector declined by 7% to 690,000 tonnes, with output still affected by recent capacity adjustments. The Graphics and Specialities sectors, however, saw a combined increase of 5% to 1.43 million tonnes, this despite the closure of UPM's Shotton newsprint mill in September which will have a continuing impact on these numbers into 2022. Overall, production at UK paper and board mills increased to 3.64 million tonnes (+0.2%).

Deliveries to domestic markets fell by 1% to 2.9 million tonnes as deliveries in the Tissue sector, which largely manufactures for this market, fell by 7.5% compared to 2020, finishing at 679,000 tonnes (734,000 tonnes in 2020). And whilst import deliveries of reels increased to partly compensate (+2%), there is no evidence of increased importing of converted products further down the supply chain. Export deliveries in all sectors were largely stable, whilst concealing large changes in the various sectors, with CCM exports down some 32% compared to 2020 or 40,000 tonnes largely compensated by an equivalent increase in the recovering Graphics sector.

UK production of papers and boards now matches the volumes produced in the late 1950s during the long post-war rise, peaking at over 6.6 million tonnes in 2000. Although in a global context the UK is no longer a major producer, recent announcements of further investment suggest the UK will begin to recover some lost capacity in the coming decade.

PAPERMAKING RAW MATERIALS

It was a slightly disappointing year for domestic consumption of recovered papers as the slight decline in Corrugated Case Materials production reduced demand at home. Meanwhile exporters had an excellent year, returning recovered paper volumes sent abroad for recycling to the levels of 2019.

Both Mixed Papers (which now includes Newspapers & Magazines) and Corrugated & Kraft experienced falls of 1% or thereabouts, the former affected by the closure of Shotton Paper Mill as noted above. Usage of used corrugated materials declined by 1.6% to 1.37 million tonnes but still just above 2019 levels (1.36 million tonnes). The recovery in supply of Woodfree materials saw these grades rise by almost 5% to 383,000 tonnes, giving a total domestic consumption of 2.93 million tonnes, -0.9% compared to 2020. Export volumes rose by 12% to 4.3 million tonnes with continuing good demand from Far-east Asia and rising demand from the EU, though some of this material may be Asia-bound via Rotterdam. With exports of Mixed Papers and Corrugated & Kraft both showing double digit growth, UK collections of recovered paper rose by 7% to 7.1 million tonnes, a little below the volume collected in 2019. Applying the volume of materials placed on the market noted above, CPI calculates the UK's recycling rate for 2021 to have jumped by 4.1% to 71.1%, its highest ever level.

Of other raw materials for papermaking, record prices for benchmark grades of woodpulp and continuing logistics problems appear to have had little impact on woodpulp consumption which remained steady at around 960,000 tonnes. Non-fibrous additives rose by 9.5% compared to 2020 as the Graphics and Specialities sectors, large users of these materials, recovered from long periods of production stoppages the previous year; the total volume used in production was 190,000 tonnes with starches and Calcium Carbonates making up the bulk of the material.

PRODUCTION OF CORRUGATED BOARD

CPI's Corrugated Sector members continued 2021 in the manner they finished 2020, as the annual autumn surge rolled over into a Spring boom, with demand peaking in May at an effective weekly production of over 100,000 ksm of corrugated board. And whilst output gently declined thereafter, members have posted a further year of growth, +4.1% compared to a very good 2020, ending 2021 with 4.75 million ksm of board. The Sheet-feeding sector fared even better, seeing growth of over 7% compared to 2020 and producing 1,39 million ksm of sheets at an effective weekly production of 27,852 ksm. Average board weights remained stable at 451 gsm. Taking into account non-members and the small trade flows in new corrugated products, CPI estimates a total UK corrugated box market of 5.7 million ksm for 2021, a 4.7% increase over 2020.

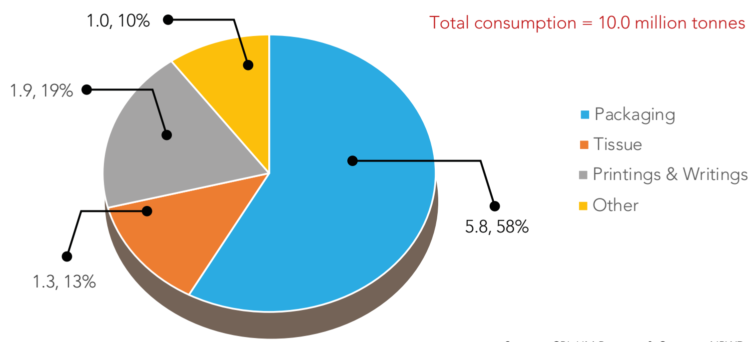
KEY STATISTICS 2021

KEY FIGURES OF THE UK'S PAPER-BASED INDUSTRIES

56,000	*56,000 people are employed in the UK manufacturing paper and paper products*	Jobs
1,418	*1,418 UK enterprises are engaged in the manufacture of paper products*	Companies
£12 billion	*UK companies manufacturing paper have a turnover of £12,117 million*	Turnover
£3.6 billion	*UK manufacture of paper has a Gross Value Added of £3,583 million*	GVA

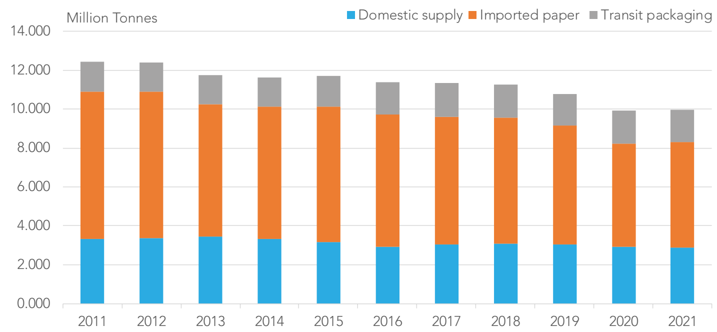
Source: ONS, Annual Business Survey 2021, SIC 17 2019 data

UK CONSUMPTION OF PAPERS AND BOARDS 2021



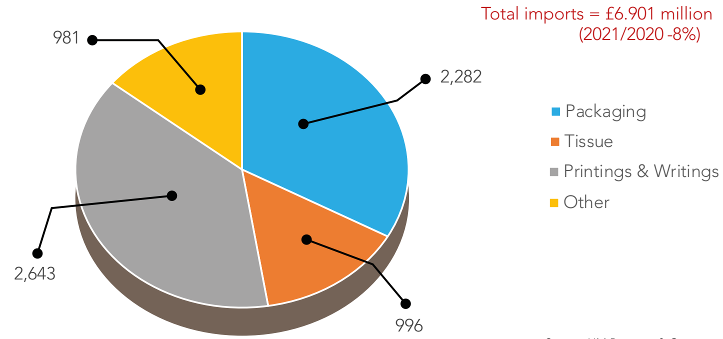
Sources: CPI, HM Revenue & Customs, NPWD

UK CONSUMPTION OF PAPER AND BOARD BY ORIGIN



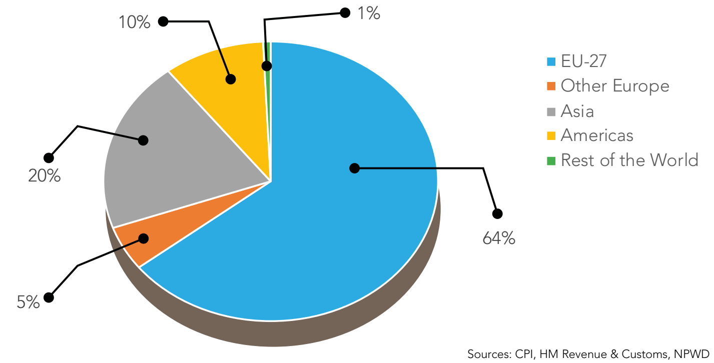
Sources: CPI, HM Revenue & Customs, NPWD

IMPORTS OF PAPERS AND BOARDS BY VALUE (£ millions) 2021



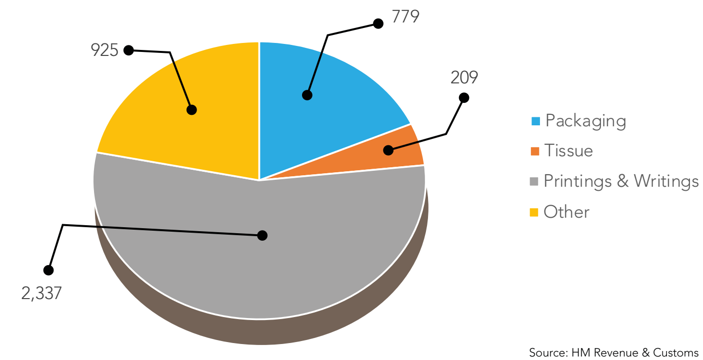
Source: HM Revenue & Customs

IMPORTS OF PAPERS AND BOARDS BY ORIGIN 2021



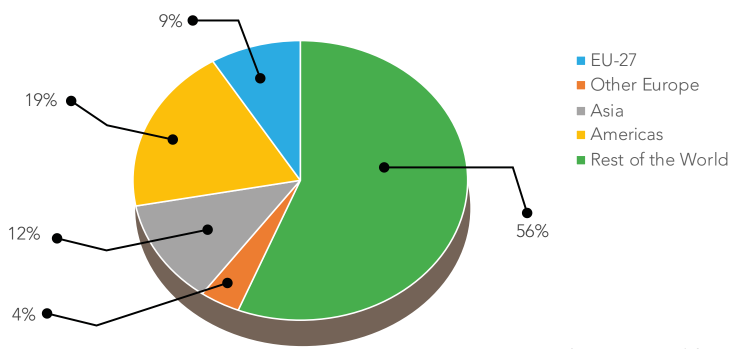
Sources: CPI, HM Revenue & Customs, NPWD

EXPORTS OF PAPERS AND BOARDS BY VALUE (£ millions) 2021



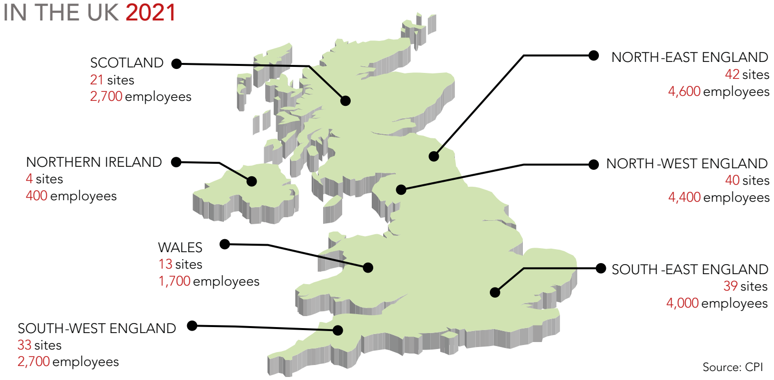
Source: HM Revenue & Customs

EXPORTS OF PAPERS AND BOARDS BY DESTINATION 2021



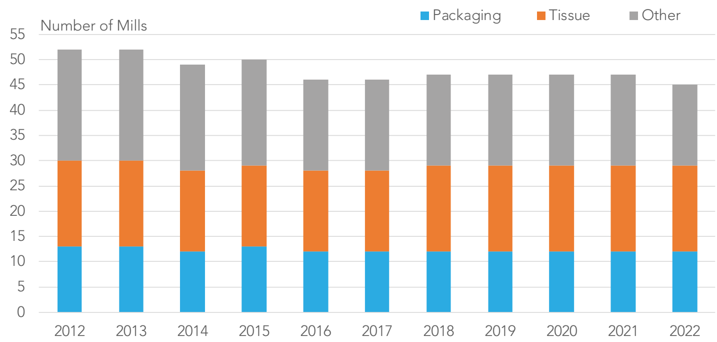
Source: HM Revenue & Customs

INTEGRATED PAPER, PACKAGING, TISSUE AND RECYCLING IN THE UK 2021



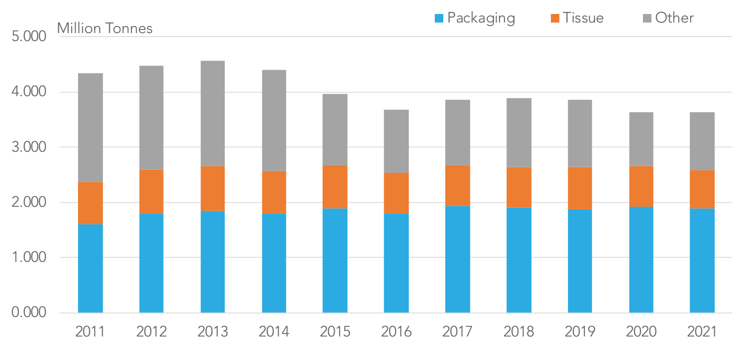
Source: CPI

PAPER AND BOARD MILLS OPERATING IN THE UK



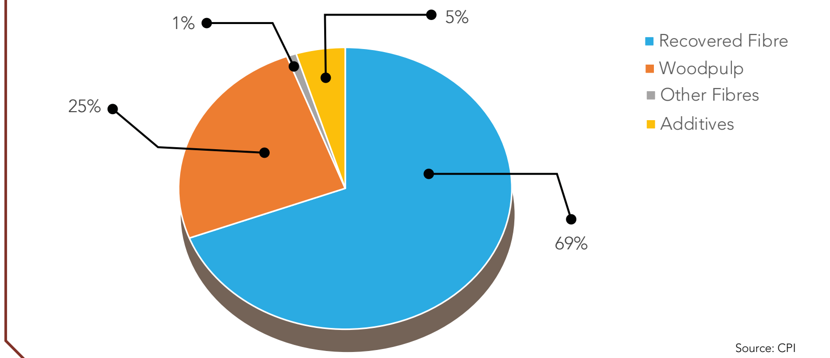
Source: CPI

UK PRODUCTION OF PAPERS AND BOARDS



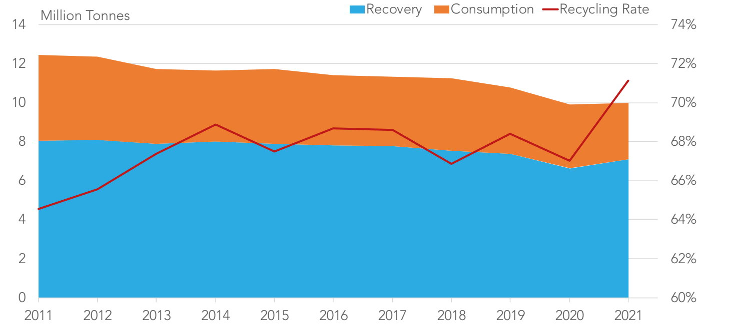
Source: CPI

PAPERMAKING RAW MATERIALS 2021



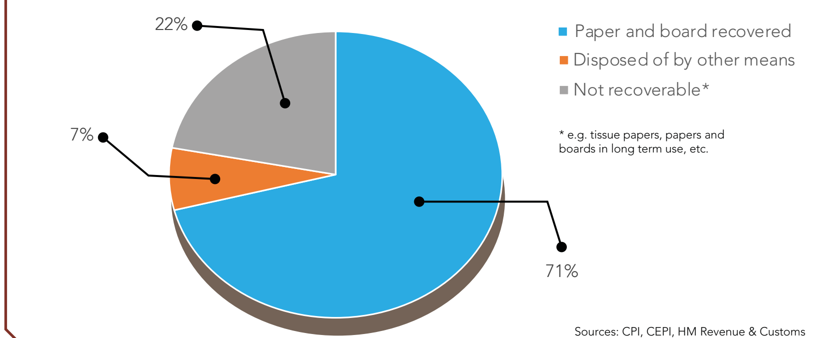
Source: CPI

CONSUMPTION AND RECOVERY OF PAPER AND BOARD



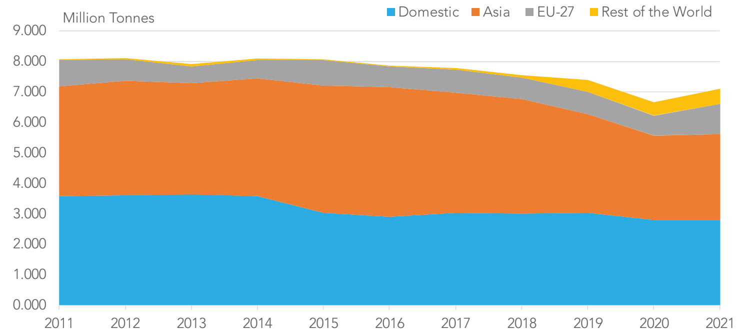
Sources: CPI, HM Revenue & Customs, NPWD

UK RECOVERY OF PAPER AND BOARD 2021



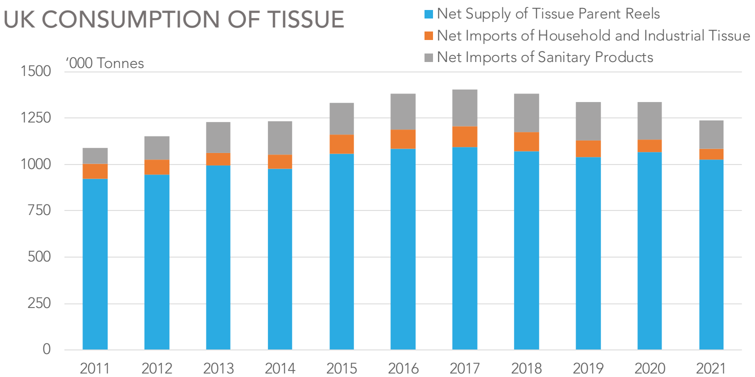
Sources: CPI, CEPI, HM Revenue & Customs

HOW UK PAPER AND BOARD IS RECYCLED



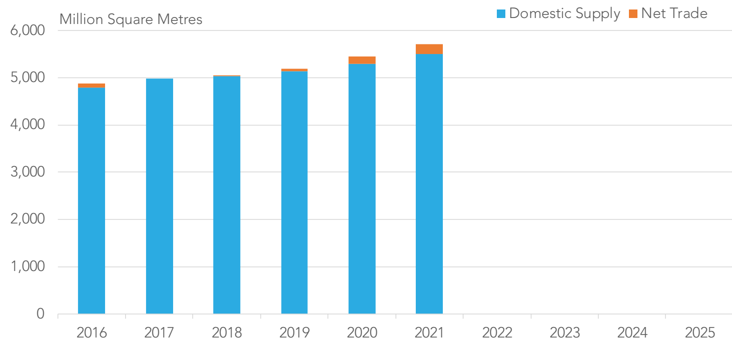
Sources: CPI, HM Revenue & Customs

UK CONSUMPTION OF TISSUE



Source: CPI, HM Revenue and Customs

UK CONSUMPTION OF NEW CORRUGATED BOXES*



* i.e. unused boxes supplied to customers for packing/filling

Sources: CPI, HM Revenue & Customs

EXPLORING FUTURES OF PAPER INDUSTRIES

Imagine you encountered a time traveller returning from 2050, what would you ask them? After checking who was Prime Minister, and who won the Derby in 2024, you might turn to more serious matters. Did we reach Net Zero? What is the state of geo-politics? What is the latest technological advance? And in your own industry, who were winners and losers and why? Unlikely as it is that you should meet such an oracle, how do you start your own journey into the future and become an explorer of time itself?

The future is, of course, inherently unknowable. Any number of different futures could play out; it really is a multiverse. Organisations generally have business forecasts, often in incredible detail over long periods, but the one thing you can tell about these is that they are most likely wrong. Recent events have shown us how change can be radical and surprising. However, that doesn't mean one should give up trying to examine what may happen and develop contingency plans accordingly.

A common starting point is PESTLE (or STEEP or PEST). That is, what are the key Political, Economic, Societal, Technological, Legal or Environmental issues affecting your future? What are the new and emerging things in each area? What are the common drivers of change? Organisations should regularly be "Horizon Scanning" to see what is coming next.

Many consultancies and other organisations maintain a list of drivers of change or "megatrends" – see our list on our website[1]. Others, such as the World Economic Forum and various Governments, maintain a global risk register (a pandemic had long been high on the UK Government National Risk Assessment).

Looking at our list of drivers, how might they affect demand for paper and pulp products, or the operations of companies in the Paper Industry themselves?

Demographics

One relatively predictable driver of change is demographics. Population forecasts show an ageing population in developed economies around the world - the proportion of the population aged over 60 will grow rapidly. By around 2050 many countries' populations will have begun to decline as the fertility rate falls. Already in Japan and South Korea there are fewer than 1.4

[1]WP-21-6-Pandemic-and-drivers-of-change-v2.pdf (samiconsulting.co.uk)

and 1.0 births per woman (when a replacement rate is around 2.1); even in India the rate has declined from 4 births per woman in 1990 to 2.2 today.

An ageing population might benefit from improved healthcare technologies and be expected to retire later, but in general an increased burden is likely to fall on younger generations. Organisations will need to compete for employees, maybe arguing for increased immigration, and will need to learn to cope with a multi-generational workforce. Will ageing populations continue to write, or do people write less as they get older?

Climate change
There is an increasing drive towards "net zero" by 2050. Increased use of renewable energy will be accompanied by carbon capture approaches (notably tree planting), and pressure for recycling and sustainability generally. For the high energy paper industry, the challenges of reaching net zero are significant. CPI produced a thorough examination of the issues in its "decarbonisation roadmap"[2].

Extreme weather events will themselves have impacts on forests. The Amazon Basin is already a net generator of carbon dioxide, rather than the carbon sink it used to be, due to de-forestation and fires. Recent storms blew down many trees in the UK; wildfires in the US and Australia destroyed large areas; droughts and floods limit growth. Conversely, warmer climates change the tree line and are likely to open up large parts of Russia to agriculture. The melting of the polar ice cap opens up new shipping routes.

Paper can increasingly be a low-carbon substitute for plastic (eg straws). Notebooks could come to be seen as less energy intensive than digital storage.

Economic growth – multipolar world
GDP growth is a generic driver of demand but is itself driven to a large extent by demographics. Some countries, notably India, Nigeria and South America, benefit from a "demographic dividend": a boost in economic productivity because there are growing numbers of people in the workforce relative to the number of dependents. If they can exploit this, then their political power increases as well.

The geo-political dominance of the US has declined, and we are now seeing a much more multipolar world. Populism has led several developed countries to focus internally, leaving a space on the global stage for others to fill.

The post cold-war "Washington consensus" is falling away.
Russia's invasion of Ukraine will have unpredictable political and economic consequences for at least a decade.
China's increasingly aggressive posture in the South China Sea could move on to forcible re-integration of Taiwan - US analysis suggests defending it might not be possible. Sino-Russian relationships could be the defining feature of global politics in the coming years.

Geo-political instability will increase energy costs and disrupt supply chains.

Fourth industrial revolution
The Internet of Things (wide networks of embedded sensors), Big Data analysis techniques and Artificial Intelligence combined will have a major impact. Key areas will be improved demand analysis, improved manufacturing efficiency. Other digital technologies, such as Virtual Reality and Augmented Reality, will enhance training and maintenance.

AI will displace many jobs, even in professional services such as the law. However, the new jobs created (eg virtual reality world designer) could more than compensate. Ethical issues around AI (eg facial recognition in crowds, bias in job recruitment) are beginning to become significant, and may limit its development.

Fully Autonomous Vehicles, ones that never need driver intervention under any conditions, seem to be harder to develop than first expected. AVs will emerge earlier in more controlled areas, such as ploughing fields or replacing fork-lift trucks in warehouses.

Precision agriculture is increasing productivity, with more accurate use of irrigation, pesticides etc. In Romania, a "smart forest" equipped with sensors linked to AI technology can identify the sounds of chainsaws and send real-time alerts to prevent illegal logging . Other new applications include forestry monitoring using drones.

3D-printing will radically change distribution patterns, with localised manufacturing reducing transport costs. The value chain will move more into intellectual property. Paper products could become 3D printing feedstocks.

[2]UK Paper Sector Decarbonisation Roadmap (www.paper.org.uk)

Biotechnology
The CRISPR/Cas-9 gene editing technique is becoming ever more sophisticated. In medicine this will lead to personalised treatments tailored to individual DNA (at least for those that can afford it). Ethical debates are emerging here too, as to whether changes that affect the human germline (ie that persist to succeeding generations) should be permitted.

In a very experimental procedure, a pig's heart was transplanted into a human; gene editing helped avoid the body's immune response. Laboratory grown organs are being tested in mice. Laboratory grown meat has already gone on sale in Singapore.

In agriculture, gene editing has been used to create drought tolerant cattle, increase grain weight and protein content in wheat, and improve bacterial blight resistance in rice and herbicide resistance in several plants.

Gene-edited bacteria can make ethanol by fermenting the waste gas of steel mills. The same technique can produce acetone and isopropanol, used in paint remover and hand sanitizer. The process would be carbon-negative, locking in more than a kilogram of carbon per kilogram of product. Carbon fibres can be made from tree fibres much more cheaply than from oil.

Can gene editing techniques produce new feedstocks for paper production?

Changing social attitudes
Younger generations are facing greater financial insecurity. Britain's millennials, aged between 20 and 35, earned £8,000 less during their 20s than their predecessors. There are more "Boomerang children": 60% of single 20 to 34-year-olds without children now live with their parents. The pattern of two-way loyalty between organisations and staff is ending, and different values make incentivising a multi-generational workforce more difficult. 87% of millennials/Gen Z believe that "the success of a business should be measured in terms that go further than its financial results".

> *The future will not be like today. It will be different in many surprising ways. But preparing for a range of outcomes makes you more likely to survive and thrive.*

There is a value shift across generations as Gen Z are exposed to greater diversity via social media and travel. They have more flexible attitudes to gender: 35 percent of Gen Z know someone who uses "they/them" pronouns. They drink and smoke less but are more obese, and have more mental health issues. 48% of Gen Z and 44% of millennials say they are stressed all or most of the time.

The COVID-19 pandemic lockdowns accelerated trends in internet use, for work and shopping. Working from Home reduced demand for graphic paper, while e-commerce increased demand for cardboard packaging. Demand for thermal packaging for food deliveries also increased. Could paper products come to be fashionable, "retro", in the way vinyl records have? Will these trends be replicated in developing economies?

Futures thinking tools and techniques
As well as exploring drivers of change, organisations can use a variety of approaches to help prepare for an uncertain future. These include:

- Scenario planning: developing qualitatively different views of the future to examine how various strategies and policies perform and build a set of contingency plans.
- Three Horizons: identifying what factors in the current situation are fading away, what radically new ideas are emerging and what innovations are being put into place.
- Futures Wheels: identifying second-order and third-order impacts of change.
- Causal Layer Analysis: examining the cultural assumptions underpinning the current state, and how these might change.
- Gartner Hype Cycle: exploring how technologies become adopted.

Huw Williams, *Principal, SAMI Consulting*

JEFFERY BARTLETT OBE

Director General of the Paper Federation of Great Britain from 1983 – 2000

I joined the Employers' Federation dealing with industrial relations in the paper manufacturing industry in the late 1960s. It was a period of considerable industrial unrest in most of manufacturing industry. At that time there was a separate trade association.

Move on to the 1970s, priorities for the industry were changing with representing the needs of a smaller British paper industry to the Government and Brussels becoming of increasing importance. Rear Admiral John Adams became Director General, and was tasked with merging the two associations to form a single Federation for paper manufacturers in new offices off Fleet Street with 3 divisions. I became Director of Employment Affairs, with David Peacock Commercial Director and Alan Marriot Technical Director.

By the time John Adams retired and I became Director General in 1983 priorities were again changing with environmental issues threatening the industry internationally as it was attacked for cutting down trees to make paper. We had to obtain recognition that paper was an infinitely renewable resource, easily recycled and biodegradable.

In 1988 we had the opportunity to sell the remaining lease of our Office in London on very favourable terms and buy an office block in Swindon, whilst maintaining meeting facilities in London, thus reducing costs to members.

The final phase of my time in the industry came when, working with the President of the day, James Daglish, we set about bringing together a range of organisations dealing with the manufacture and converting of paper to form the Confederation of Paper Industries.

No doubt the past 20 years have also seen changes needed to serve the industry and enable us to congratulate the reaching of the 150th Anniversary.

Upon retirement I was honoured to receive the OBE for services to the industry.

BOB MCLELLAN

Inaugural Chairman of CPI Corrugated Sector
CPI Past President (May 2008 to May 2012)

The Corrugated Packaging Industry has a strong heritage in the UK. Developed in the latter half of the 19th century, it quickly became the popular choice for packaging a wide range of goods.

As the Corrugated Industry grew across the UK, so did the need for stewardship and a co-ordinated support for the companies involved. For many years, this was led by the British Fibreboard Packaging Association (BFPA) and then the Corrugated Packaging Association (CPA).

In 2000, a number of companies – recognising that they were active across several sectors – sought to consolidate their Trade Association support through a single 'Confederation of Paper Industries'.

Over the following years we established a strong programme of activity, working to improve Health and Safety, reviewing key regulatory developments, acting as a single voice for the sector, and increasing awareness of the superb environmental benefits that corrugated packaging provides.

People will always need packaging for the retail supply chain, transporting food and drink and electronic goods as well as supporting the aerospace and automotive sectors. In recent years, corrugated has also been fundamental to the growth of e-commerce and home delivery. Good packaging reduces damage and needless waste. Fantastic graphics can be a marketing tool as well as helping the distribution network for brand owners.

As society starts to look more closely at their use of packaging and the environmental challenges, there is an even greater opportunity for paper packaging which is superbly recyclable. There are also important changes coming from the UK Government on the way that packaging will be regulated, so we look for improvements by "rightsizing" and innovative packaging design and further recycling opportunities.

Now is an important time for the UK Corrugated Packaging Industry and, as we look to the future, I am delighted to say that the industry is in safe hands with the CPI.

THE CPI TEAM

Andy Barnetson
Director of Packaging Affairs

Andrew Braund
Director of Health and Safety

Neil Fishburne
Chief Operating Officer

Steve Freeman
Director of Energy & Environmental Affairs

Nick Langdon
Statistics Manager

Andrew Large
Director General

David Morgan
Energy Data Manager

Emma Punchard
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Dimitra Rappou
Director of Recycling

Debbie Stringer
Director of Environment

Holly Whitbread
Ext. Communications Manager

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Accounts and Office Manager

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SAICA Pack UK Ltd
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Shotton Mill Limited
Slater Harrison & Co. Ltd
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Smurfit Kappa - Papermaking
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