



Building business through sustainability

SUSTAINABILITY IN EVERY FIBRE

As one of the world's largest paper-based packaging businesses, Smurfit Kappa maintains a relentless commitment to sustainable business that underpins everything we do.

We use sustainability as a lens through which to focus our innovation, our strategy and our processes. The transparency and detail we offer our stakeholders is industry-leading.

For many years we have focused on designing our operations around a circular economy model – a truly closed-loop system in which the productivity of the resources we use is maximised and waste, including CO₂ emissions, generated through our products is minimised. Meanwhile, we promote sustainable use of renewable raw materials, to reduce their use and replace non-renewable raw materials with renewable ones where feasible and ultimately reuse resources we take out.

Our innovative, right-weighted, recyclable packaging delivers real savings in cost and carbon for our customers and for consumers. This is an approach that has delivered consistent business growth and long-term partnerships with some of the world's most respected brands as well as with local customers.

Current technology means paper cannot be recycled indefinitely; new wood fibre must be introduced into the system, creating an impact for which we must take responsibility.

True closed-loop thinking starts in the forest, which is why we are unique among our peers in committing to 100% sustainably sourced new fibre from forests where biodiversity and human rights are assured to the highest globally recognised standards.

Our customers have unrivalled awareness of the environmental impact of the products they buy from us, helping them in turn to realise their own sustainability strategies and better manage their impact.

This is how we do business. It is what drives our success, our competitive energy, our appetite for fresh challenges. Every day, we prove how our way of working contributes to a better world and a brighter future.

That is why we are proud to say that running through our processes, our products and our people, we have sustainability in every fibre.

The report contents have been assured by an independent third-party assurance provider with a level of limited assurance. We applied the 'Comprehensive' version of the G4 guidelines of GRI for writing this report. The GRI index and assurance letter are available on pages 95 and 112 of this report.

FOR MORE INFORMATION VISIT
smurfitkappa.com

Being part of its communities is important for Smurfit Kappa. In Colombia, we operate three middle and high schools focused on agriculture, livestock and forestry. The school pictured is located in one of our Colombian commercial forestry plantations and protected natural forests where 136 children receive an education with an emphasis on rural productive projects and forestry activity.

This report contains an overview of our 2017 performance, a focus on our strategic direction, and a review of the businesses underpinning our strategy.

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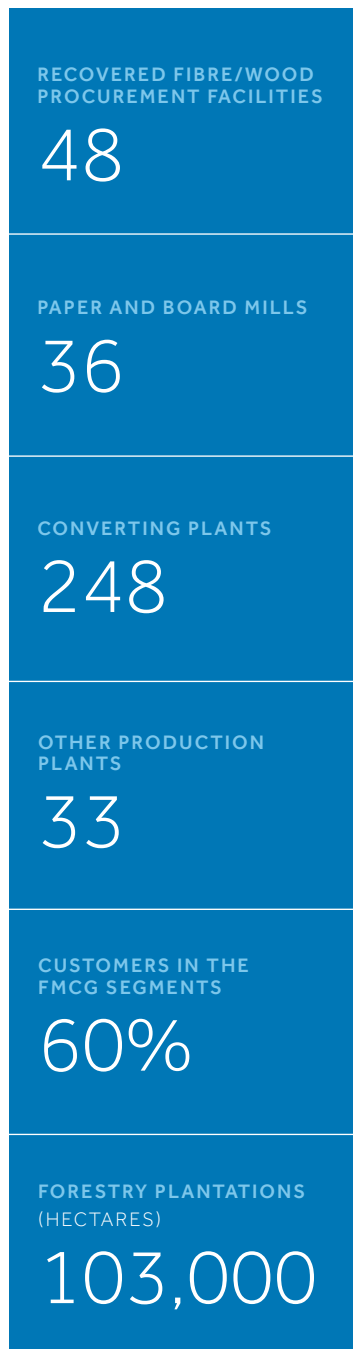
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Our five strategic sustainability priorities

We are a global company whose activities creates value for our customers, employees, investors, suppliers and the communities in which we operate.

OUR BUSINESS IN NUMBERS



Forest

At the end of 2017 we sold 89% of our packaging as certified by FSC® or PEFC™ standards.




Climate change

We have reduced fossil CO₂ emissions per produced tonne of paper by 26.1% since 2005.



Water

We have reduced the chemical oxygen demand in our water discharge per produced tonne of paper by 37.5% since 2005.




Waste

We have reduced waste sent to landfill per produced tonne by 13.3% since 2013.



People

We achieved a reduction in Lost Time Accidents of 9% per year since 2013.



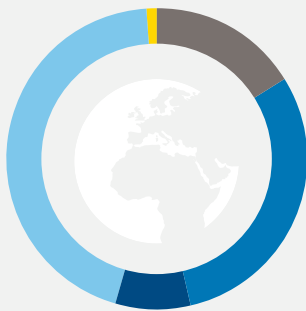
OUR GROUP OPERATIONS

Smurfit Kappa, a FTSE 100 company, is one of the leading providers of paper-based packaging solutions in the world, with 46,000 employees in approximately 370 production sites across 35 countries and with revenue of €8.6 billion in 2017. We are located in 22 countries in Europe, and 13 in the Americas, and are the only large-scale pan-regional player in Latin America.

Our global sales

SALES EUROPE

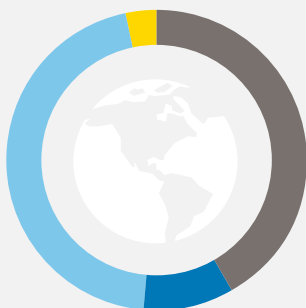
Volumes (Million Tonnes)



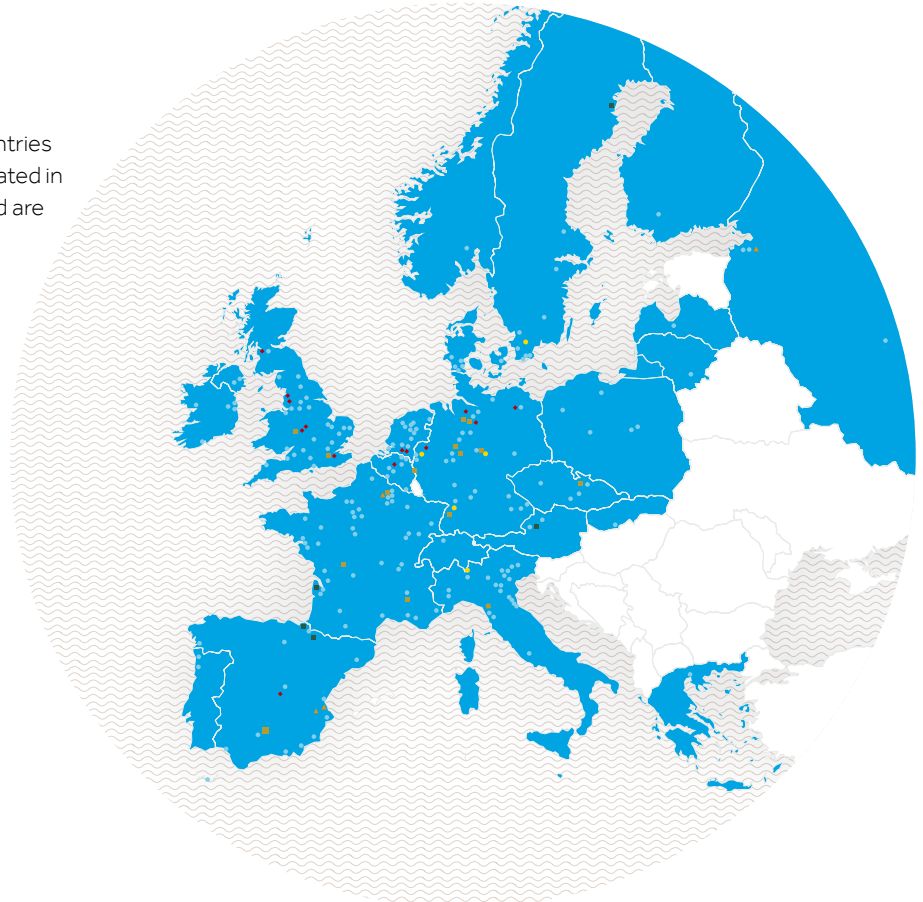
○ Kraftliner	1.6
○ Recycled Containerboard	3.1
○ Other Paper & Board	0.8
○ Corrugated	4.5
○ Solidboard Packaging	0.1

SALES THE AMERICAS

Volumes (Million Tonnes)



○ Containerboard	1.3
○ Other Paper & Board	0.3
○ Corrugated	1.4
○ Other Paper-based Packaging	0.1



GROUP OPERATIONS

- Virgin Mills
- Recycled Mills
- Corrugated
- Cartons
- ▲ Paper Sacks
- ▲ Bag-in-box
- ◆ Recovered Fibre
- ▲ Forestry

Vision into action

What we are doing

Business

Smurfit Kappa Sustainability Awards

Our biennial Sustainability Awards competition in Europe and the Americas yielded a wealth of examples showing how our people and operations bring sustainability into practice. You can read about the winners on pages 19 and 24.

Winning in awards

In recognition of its sustainable and cutting-edge design packaging solutions: Smurfit Kappa has won a total of 43 national and international awards during 2017. We also were recognised with the Portfolio award in Colombia, as the company with the best social responsibility programme in the country.

Acquisitions

- Soyuz, Russia
- Chatziioannou, Greece
- Litbag, Portugal

Listing in investor rating systems



Forest

Promoting sustainable forests

We aim to ensure a transparent supply chain of sustainably sourced fibres through Chain of Custody certified production and purchase of the papers used in our products, and communicating this to consumers through product labelling.

ACHIEVEMENT

During 2017 we maintained our industry-leading level of deliveries of Chain of Custody certified products to our customers.

Further improving our due diligence

Following the establishment of a companywide certified Chain of Custody management system, our ambition has been to increase effectiveness of this work.

ACHIEVEMENT

We started a review to understand the effectiveness of our Chain of Custody and related risk-management systems.



Climate Change

Achieved our CO₂ emission reduction target

We set ourselves a 2020 target to reduce 25% of the fossil CO₂ emissions per tonne of produced paper in comparison to the 2005 base line.

ACHIEVEMENT

By the end of 2017 we had achieved a 26.1% emission reduction, reaching our target three years ahead of schedule.

Investments in more efficient energy production

We make investments throughout our global paper mill network to increase efficiency of the energy production and use.

ACHIEVEMENTS

A multi-million euro investment in Nettingsdorf (Austria) was announced that will decrease annual CO₂ emissions by 40,000 tonnes by 2022. Over 50 million euros was invested in a new paper machine in Los Reyes (Mexico) that also will significantly increase energy efficiency of the paper mill.



Water

Achieved our COD discharge reduction target

We set ourselves a 2020 target to reduce one third of the chemical oxygen demand (COD) discharge per tonne of produced paper in comparison to 2005 base line from sites discharging directly to water bodies.

ACHIEVEMENT

During 2017 we achieved a 37.5% reduction, reaching our target three years ahead of schedule.

Became signatories of CEO Water Mandate

We are committed to good water management practices throughout our company, industry and outside environment through collaborative work in different working groups.

ACHIEVEMENT

We became signatories of the UN Global Compact CEO Water Mandate.



Waste

Approaching our 2020 waste reduction target

We set ourselves a new target in 2015 to reduce waste sent to landfill by 30% per tonne of paper.

ACHIEVEMENT

In 2017 we achieved a cumulative reduction of 13.3%.

Circular economy

We continually search for opportunities to increase recycling of our products and to decrease waste sent to landfill.

ACHIEVEMENT

In 2017, a strategic partnership with the city of Malaga (Spain) was initiated that significantly increased paper recycling in the city, decreased landfill, and contributed to making this historic city a cleaner and more attractive place. (Read more on page 37).



People

MyVoice 2017

We performed the second Group-wide survey that measures the engagement of our people and their view in putting the Smurfit Kappa vision into practice.

ACHIEVEMENT

84% response rate which was up from 80% from our first survey in 2014.

Achieved five-year target in LTA reduction

We made a commitment to reduce the lost time accidents (LTA) frequency rate by 5% annually between 2013-2017.

ACHIEVEMENT

We reached a reduction of approximately 9% year on year during this period.

Social investments in local communities

We continue to engage with, and actively support, local communities through our Smurfit Kappa Foundation and local operations.

ACHIEVEMENT

Smurfit Kappa and its related foundations donated approximately €5 million in 2017, with noteworthy projects in El Salvador, France, Germany, Ireland, Mexico, Netherlands, Spain and UK.



LETTER FROM OUR GROUP CHIEF EXECUTIVE OFFICER

While 2017 presented many challenges for the Group, we still reached new heights in creating value for our stakeholders, in addition to meeting long-term sustainable development targets before the target date. However, as new economic, societal and environmental challenges arise, we are as determined as ever to exceed expectations and show leadership in the journey ahead.

SUMMARY

Only with a sense of long-term purpose can a company achieve its full potential.

Paper-based packaging is uniquely positioned to deliver a low environmental footprint, being renewable, recyclable and biodegradable.

Great progress against our targets was made in 2017, with the achievement of our goals in reduction of CO₂, COD and LTA frequency rate.

The long-term sustainability targets will be reset in 2018 and aligned with the UN 2030 Sustainable Development Goals.

Despite solid global economic progress a number of concerns remain. Current economic progress does not enable everyone to prosper to the same degree and, as governments are increasingly less able to adequately prepare for the future, society is turning to the private sector, asking them to respond to the broader societal challenges and demanding that companies serve a social purpose. Therefore, to prosper over time, companies must deliver on their financial objectives, and demonstrate how they make a positive contribution to society. Companies must ultimately deliver benefits for all of their stakeholders, including customers, shareholders, employees, and the communities in which they operate.

It is my strong belief that only with a sense of purpose can a company achieve its full potential. Without this, it may ultimately lose the license to operate from key stakeholders. It is at risk of succumbing to short-term pressures and sacrificing investments in employee development, innovation, and capital expenditure vital for long-term growth. At Smurfit Kappa our purpose is to meet the needs of our customers, generate superior returns for our investors, and invest in our people, the communities in which we are privileged to operate and the environment around us. Loyalty, integrity and respect are our guiding principles when developing our business.

Sustainable Packaging

I also believe that paper is the future of packaging. Packaging should be produced sustainably with the lowest environmental footprint, designed to deliver the lowest supply chain

environmental impact. It must also be biodegradable within a relatively short time after multiple usages, with as minimum an impact as possible on the planet. Only then is packaging sustainable. Paper based packaging is uniquely positioned to do this, and we strongly support the growing group of politicians and companies that have committed to put an end to the increasing mass of non-biodegradable, primarily plastic packaging floating in our oceans.

Our progress in 2017

During 2017, more progress was made in reaching our long-term 2020 sustainability targets. We achieved a 26% reduction in relative fossil CO₂ emissions for our paper mills compared to 2005, thereby exceeding our 2020 goal of 25% reduction three years ahead of time.

We also reached our long-term target in water discharge. We achieved a reduction of 37% in relative Chemical Oxygen Demand discharge for our paper mills compared to 2005, where our long-term target was a reduction of one third by 2020. We also completed additional assessments of six of our paper mills' water-usage impact on their surrounding regions.

We delivered 88% of our packaging solutions to customers as Chain of Custody certified, a unique service to customers in our industry for a company our size. This provides customers with assurance and traceability, while enabling end-to-end transparency across the supply chain.

Reducing our waste sent to landfill has been more challenging than anticipated and as a result there was no further reduction on a per tonne basis.



Approximately 50% of our mills reduced waste to landfill while the other 50% increased, so we will continue to work on methods to recover waste.

With a 7% reduction in Lost Time Accidents in 2017 compared to 2016, the annual decrease over the five year period 2013-2017 was approximately 9%, meeting our target of 5% reduction each year. Our goal is to be an employer of choice, to attract, develop and retain the talent we need for our long-term evolution and success. In 2017, the second companywide MyVoice survey was held and 84% of our colleagues completed the questionnaire - up from 80% in the first MyVoice survey - providing insights to all managerial levels on people-management opportunities and challenges.

We continued our listing on various environmental, social and governance ('ESG') equity indices, such as FTSE4Good, Euronext Vigeo Europe 120, STOXX Global ESG Leaders, and inclusion in Ethibel's sustainable investment register.

Looking ahead

We continue to look to the future with confidence, having an abundance of opportunities to grow our business in a sustainable way. In the next five years we plan to allocate significant capital to projects that will contribute further towards lowering our environmental footprint. We will also continue to invest significant resources in the development, safety and well-being of our people. As we have reached a number of our long-term sustainable

development targets a few years ahead of target, we will use 2018 to reset our long-term sustainability targets to be aligned with the UN 2030 Sustainable Development Goals.

I hope you find the content of our Sustainable Development Report 2017 interesting and informative and look forward to your feedback (sustainability@smurfitkappa.com).

Tony Smurfit

Group Chief Executive Officer
14 May 2018

Circularity, Innovation and Inclusiveness



Nature's raw materials and circular model inspire our own business ecosystem. We actively seek out opportunities for shared synergies that support the circular economy. *Follow the icons for case stories on circularity, innovation and inclusiveness.*

Recently, we started a collaboration with the city of Malaga to help improve the city's recycled paper collection. The result? A cleaner Malaga and the return of valuable recovered fibre material to Smurfit Kappa's product loop. We believe our circular approach, from replacing natural resources to reusing materials and optimising processes, gives us a competitive advantage and is essential to our future success.

Sometimes environmental and social challenges demand completely new ways of thinking. We partnered with two students from the University of Delft in

the Netherlands, whose innovative 'Kartent' transformed music festival accommodation from a sea of waste nylon tents to a closed loop of renewable, low carbon, recyclable and fun shelters. This is just one example of how we link data, engineering and creative thinking to make revolutionary solutions with built-in synergies, keeping Smurfit Kappa and our customers at the cutting edge.

Being inclusive these days means making sure our people are part of a global community. That's why we build synergies between teams around the

world. We help our people develop their careers across continents to learn about different cultures and personalities, and to share best practice. We like to extend our inclusive approach to all those whose lives we impact, from those we employ directly or indirectly, to the communities where we are located. This means fostering a company culture that rewards proactivity, creates a healthier and safer workplace and encourages transparency in everything we do.

PRODUCTS



Retail Ready Packaging

Norma

The right packaging makes products highly visible and easier to navigate, reinforcing the brand and driving sales.

Consumer Packaging

Alfredo Cetronex

Our holistic approach to consumer packaging design considers the vital role it plays in attracting and communicating a brand's value to consumers.



Food Packaging

De Aardappelhoeve

Our range of paper-based food contact packaging ensures that goods remain fresh and protected whilst meeting all the relevant legislative requirements for food hygiene.



Bag-in-box Packaging

Creydt

The shelf life of liquid, or semi-liquid food products, can be extended with one of our innovative bag-in-box solutions.





Point of Sale displays

Rama

Our point of sale displays help brands to attract shopper attention and alert them to new products or promotions which drives increased sales.



eCommerce Packaging

Bloompost

Our eCommerce packaging always provides the highest levels of protection and delivers the ultimate unboxing experience.



Industrial Packaging

Marlec Engineering

We have analysed over 45,000 supply chains globally to ensure products arrive in optimal condition, no matter how demanding the requirements.

Standard Packaging

Bosch

We supply cost effective and risk-free solutions by applying our unique performance packaging technology.





WINNERS

Our approach
to sustainable
business



In 2017 we held our biennial Innovation Event both for our European and the Americas customers. At these events we show our latest innovations in packaging design and sustainability. An important highlight is the grand finale of our company wide Innovation and Sustainability Awards competition including the presentation of the Awards to the winners in the different categories.

SUSTAINABILITY CREATES LONG-TERM BUSINESS VALUE

We believe that the world's most successful businesses take a responsible, holistic approach to sustainability. As one of the world's largest paper-based packaging manufacturers, our circular business model helps to embed sustainability in every fibre.

SUMMARY

Paper-based packaging offers the most versatile, sustainable solution for manufacturers, retailers and consumers through any chosen sales channel.

Our size makes it possible to work with our customers and suppliers to sustainably grow their and our businesses throughout the value chain.

Our circular business model fosters synergies within our business and the businesses of our neighbours.

Integrating sustainability measurement into our business strategy helps our investors and customers to appraise our performance.

Why packaging matters

We all want our food, clothing and household goods delivered securely and safe from damage or theft. Businesses therefore need fit-for-purpose packaging solutions, which should also communicate their contents to the consumer.

Paper-based packaging offers the most versatile, sustainable solution for manufacturers, retailers and consumers, through any chosen sales channel. It has the highest recycling rate of any packaging – wood fibre can be recycled up to eight times before new fibre needs to be introduced to the loop. It also helps reduce product waste. According to the Food and Agriculture Organisation of the United Nations (FAO), inadequate packaging wastes 20-50% of food in developing countries, compared to only 3-5% in developed countries, where fit-for-purpose packaging ensures safe product transport.

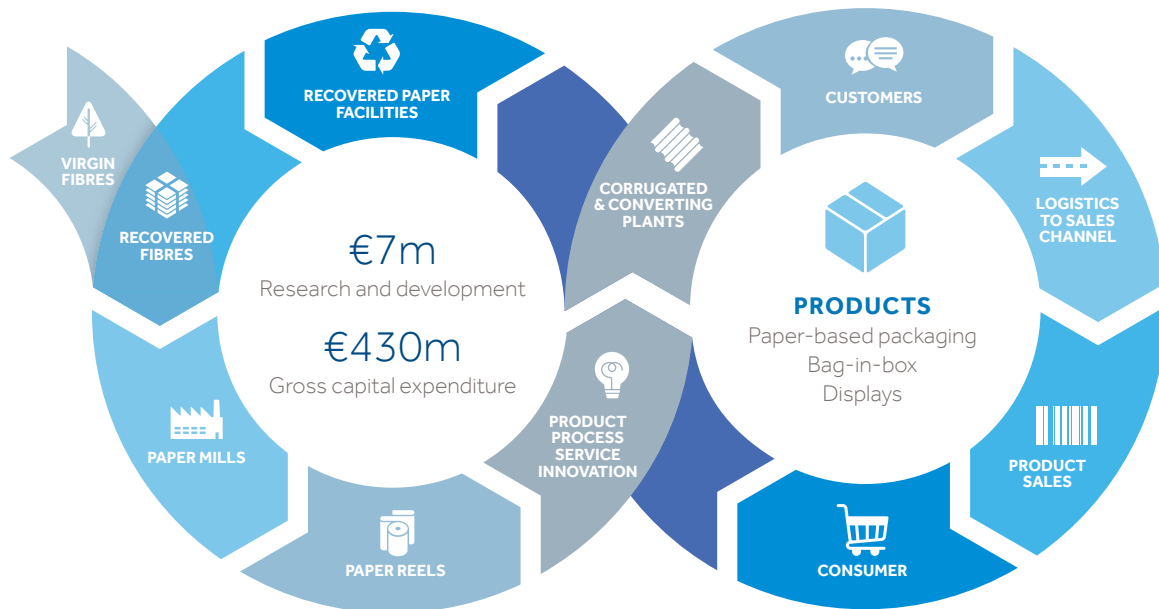
At Smurfit Kappa, we maximise this sustainability for ourselves, our customers and suppliers, through continuous research. Our experience and expertise inspire innovative packaging solutions, making sustainability integral.

Sustainable value-chain is our business

Sustainability creates value and is part of our competitive advantage. With some 370 production sites across 35 countries, Smurfit Kappa can drive change in our industry and is proud to be a leader in sustainability. We use our size and resources to work with customers and suppliers, sustainably growing their and our businesses throughout the value chain. Our innovative packaging solutions reduce use of raw materials, helping customers deliver their sustainability objectives.

Our investors want long-term profitable businesses, so environmental and social responsibility are key factors when choosing companies for investment. This can be seen in the many investor ratings and disclosure programmes that we participate in, such as Ethibel, FTSE4Good, Nyse Euronext Vigeo, or STOXX ESG Leaders, CDP, Sedex and Ecovadis. Furthermore, growing consumer demand will increase the paper-based packaging market share. CEPI and the Paper and Packaging Org surveys show increased awareness of environmental issues – for example, over 80% of European and American consumers prefer paper-based packaging.

CIRCULAR BUSINESS MODEL



Understanding our business environment enables us to increasingly integrate in the circular economy and drive sustainability in all areas of our value chain.

We provide industry-leading transparency and detail to our stakeholders of every aspect of our operations, whilst promoting sustainability in our customers' businesses. Smurfit Kappa uses suppliers who adhere to our Sustainable Sourcing Policy, our Supplier Code of Conduct, and who are Chain of Custody certified where applicable. We audit suppliers on human rights, labour practices and environmental impact.

Like all ecologically responsible companies, we work to minimise climate change by maximising the efficient use of resources, thereby reducing pressure on the environment. Our raw material – wood-based fibres – is the starting point of our circular business model (see diagram above). Managed sustainably, it enables global carbon management; from the forests that capture atmospheric carbon, to more efficient bio-energy.

When we balance the use of virgin and recovered fibres, we maintain a positive, sustainable balance of renewable raw material circulation.

Creating tangible progress

For us, sustainability is not only about mitigating climate change and reducing inefficiency. It is vital to our future as one of the world's largest paper-based packaging companies, and for stimulating innovation and creating new customer demand.

According to the UN Global Compact-Accenture CEO Study on Sustainability, sustainability is essential to CEOs' business strategies, and 88% of investors see it as a competitive advantage. For them, and for our customers, we must demonstrate the link between sustainable business and corporate value.

We integrate sustainable measurement into our business strategy, and throughout our global operations. We know the impact of our sustainable strategy – the facts and figures are in this report, enabling investors to appraise the effect of sustainable performance on our business. We are proud to have received customer awards and investor recognition for our sustainability performance.

SMARTER SUSTAINABLE SOLUTIONS

The ecosystem works in loops and networks, and so do we. From engaging our stakeholders in priority-setting to innovating with business partners, we like to see the sustainability benefits of smarter packaging solutions reach right along the value chain.

SUMMARY

Our holistic approach to fit-for-purpose packaging delivers added sustainability value throughout our customers' value chains.

Our approach is based on facts: our assured data, research, and understanding our customers' supply chains and markets.

Our sustainability strategy is built on circularity, innovation and inclusiveness.

Our products have an impact through reduce, reuse, recycle, recover, renew and biodegrade.

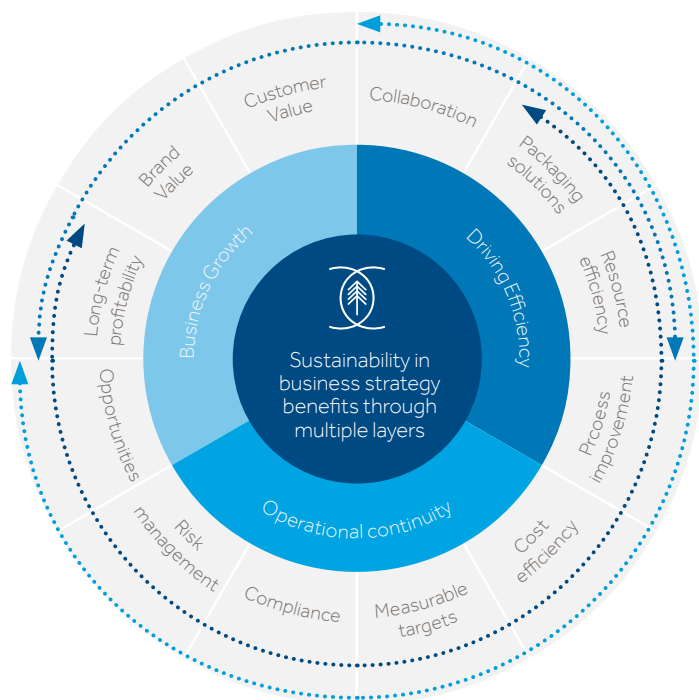
Holistic approach

Our holistic approach starts with the role of sustainability in our business strategy (see diagram below). We do not just sell packaging to our customers, we work closely with them, developing value-adding solutions to their supply chains. Our people also provide a wealth of expertise, innovative ideas and industry links.

We have assessed our material aspects on sustainability, and set priorities on which to focus in our sustainability programme. The strategic areas are Forest, Climate Change, Water, Waste and People. As part of this assessment,

we have considered our priority areas against our value chain as well as the UN Sustainable Development Goals. We have identified areas where we can deliver positive impact, but also where we can mitigate our environmental on society.

Examining the entire supply chain, including packaging, transport, storage and product presentation, identifies more sustainable improvement possibilities than considering each step in isolation. Sustainability influences our operations in three ways: embedding circularity, driving innovation, and promoting inclusivity.



CASE STORY



Happy cardboard campers at festivals across Europe

Glastonbury, Roskilde, Tomorrowland, and Pinkpop are just some of the popular-music festivals drawing huge crowds every year. Most people bring nylon tents, and camp on the festival grounds. The downside is that 25 % of the campers leave their tents behind, creating a tremendous amount of waste. Two Dutch students came up with the perfect carton-tent.

Chico Aertsen, packaging designer at Smurfit Kappa Van Dam, was brought into contact with Jan Portheine and Wout Krommer. The two Dutch students of the Technical University in Delft (Netherlands), founded a start-up named KarTent, and, together with Smurfit Kappa, came up with a sturdy, practical festival tent completely made of cardboard. Initiated in 2015, the first 8,500 production models were sold in 2016 and it did not take long for the concept to gain international recognition, winning KarTent the international Red Dot Design Award. KarTent does not sell to individual users, but supplies festival organisations, and after the festival the tents can either be re-used or recycled, creating a circular loop.

'We usually make very large heavy-duty boxes from corrugated board', says Chico Aertsen. 'This was a unique challenge. Nylon tents contain 30 different materials and leave a sizeable CO₂ footprint. KarTent is made from 60% recycled paper, and cuts the CO₂ emission in half. Our inline process helped the design overcome complexity and cost disadvantages. Each tent can house two people who will find that a KarTent screens out more light and noise than a nylon tent, and is pleasantly cool. The use of 40% virgin fibres makes it water-resistant without extra coatings on the 5-sided design. With two special folds we made it extra-sturdy, even when wet.'

Chico Aertsen continues, 'The material is fun too. Festival fans can get creative and decorate the tents. They can be pre-printed with sponsoring, or people can unleash their inner architect and make combination structures.' The two founders of KarTent conclude: 'KarTent is the new revolution in festival camping. Viva la cardboard revolución!'



Chico Aertsen

SMARTER SUSTAINABLE SOLUTIONS (CONTINUED)

Embedding Circularity

Our circular business model ensures that our operations are restorative. We strive to replace the natural resources we need, as well as reusing them in the best possible way, and collaborate with our stakeholders to find synergies. This circular approach increases resource productivity, adding to our competitiveness. The table on this and next page illustrates the way we embed circularity in our value chain.

This makes the circular system good business practice. For Smurfit Kappa, this means working with 100% renewable, sustainable primary raw materials – the wood fibres – which are then recovered for recycling. Having integrated paper recycling into our business, we can efficiently manage our producer responsibility: 75% of our raw material is recycled fibre, and paper-based packaging has the highest recycling rate of all packaging materials. This means that we know where our material comes from, and that it returns to the production cycle without being lost.

We use organic by-products as biofuel, and reuse fibres separated by water-treatment in our paper-making process. We also receive other materials with the recovered paper that we cannot use in our processes, such as metal, plastic, textiles, wood and sand. Wherever possible, we collaborate with local organisations to find alternative uses for these, creating new business opportunities locally. We also close the loop by partnering with other sectors. For example, during the virgin paper-production process we extract turpentine and tall oil, which are raw materials for the chemical, medical and pharmaceutical industries.

In our product development we work towards synergies within the whole value chain. For example, using single-material solutions creates efficiencies in our customers' packaging lines, and improves the recyclability of the packaging after use, making it simple to dispose of. A good example of this is the Kraken solution for Mabe, introduced on page 19.

Forests themselves are a closed loop, fundamental for local climate and water cycles. When managed sustainably, they also provide raw materials for industry and employment. Independent third-party certification is the most reliable means to promote sustainable forest management and combat deforestation. We manage our forests on three sustainable development principles: promoting economic growth, using natural resources responsibly, and fostering social equity wherever our plantations and forests are located.

Our plantations and forest holdings are certified to FSC and/or PEFC standards. We have pioneered full Chain of Custody certification within our production sites, and have FSC, PEFC or SFI Chain of Custody certification for 88% of our packaging – a unique proportion for a firm our size, demonstrating a sustainable loop for our raw materials.

Impact of Our Products

IMPACT 1

Reduce



IMPACT 2

Reuse



IMPACT 3

Recycle



IMPACT 4

Recover



IMPACT 5

Renew



IMPACT 6

Biodegrade



Direct Impact

Ensuring that resources are maximised and waste materials are minimised by offering fit-for-purpose packaging solutions that optimise packaging materials. Where possible, we produce lighter grammage papers which require less fibre.

Ensuring that we reuse resources in our production wherever possible. For example, using the organic by-product of our production process as biomass fuel, or reusing materials separated in the paper-making process. We also reuse water in our paper-making processes several times, before treating it for discharge.

75% of the raw material we use consists of recycled fibres. All paper-based packaging we produce is recyclable.

Ensuring all paper-based packaging manufactured by Smurfit Kappa can be recovered. For example, offering single-material solutions that are easy to recover for our customers and consumers.

We promote sustainable forest management in our own forests and plantations as well as throughout our supply chain and demand deliveries of fibrous materials to be Chain of Custody certified by an internationally accepted forest management standard, FSC, PEFC or SFI.

Paper is made of renewable raw materials, with up to 97% fibre and starch, the rest being fillers and ashes, such as calcium carbonate. Renewable materials biodegrade naturally and at the end of life are converted to natural materials such as CO₂ and water.

Indirect Impact

We intend to use renewable energy wherever it is economically feasible. This will involve additional use of biomass and scaling up methods which use our organic waste to generate energy. It will also involve investment in measures to reduce fossil CO₂ emissions and investment in further energy efficiency.

We continually find ways to recycle the metals, plastics, wood and other non-paper components separated from the recovered paper that is delivered to our mills.

Our corrugated plants recover paper clippings and send them back to paper production at our mills. We close loops and create circularity in our energy production through recovering the high energy value of any by-products wherever possible, and circulating heat. We also seek for synergies with our neighbours where possible.

SMARTER SUSTAINABLE SOLUTIONS (CONTINUED)



Driving innovation

Innovation drives all our operations. We use engineering-based thinking to analyse customer challenges and find creative solutions for specific products and markets. This is vital for product and process development, and promotes sustainability in our customers' value chains. Our three avenues to smarter sustainable solutions are explained in the diagram on the left.

For almost a decade we have collected and published our sustainability data, in accordance with the Global Reporting Initiative (GRI), had them assured by an independent third-party assurance provider (see page 112) and rated them through platforms such as Supplier Ethical Data Exchange (Sedex) and CDP. This transparency, combined with continuous research, lets us innovate new approaches to packaging and supply chains, and gives our customers a guarantee of credible impact measurement.

Customers using solutions developed by Smurfit Kappa are supported by our web-based suite of design software – InnoTools: InnoBook, Paper To Box, Pack Expert and ShelfViewer – for robust evaluation of their supply chains. In addition, our innovative virgin and recovered-fibre based packaging minimises resource use, reducing environmental footprint, and, of course, our fibre is sourced through certified Chain of Custody fibre origin management systems.

Offering fit-for-purpose packaging is the core of our eco-design. We examine our customer's entire packaging concept, then optimise primary and secondary packaging, delivering efficiency savings in transport, storage and display. We aim to improve the entire supply chain, understanding changing customer preferences, demographics, regulatory developments, and other competitive changes. Our eCommerce solutions are a good example of our eco-design: when a smart design combines with our single-material approach, we can increase efficiency throughout the packaging life cycle.

CASE STORY



Smart packaging design for Mabe appliances

Smurfit Kappa's plant in Guadalupe (Mexico) recently introduced a smart packaging solution for international appliance producer Mabe. This Mexico-based global company designs, produces, and distributes washing machines, dryers, stoves, and refrigerators to more than seventy countries around the world. Mabe approached Smurfit Kappa to find a solution for the high damage-rate of its washing machines during warehousing and transport.

In close collaboration with Mabe, Smurfit Kappa developed an innovative solution that solves many supply chain challenges. The packaging solution entered the Smurfit Kappa Innovation Event 2017, under the title "The Kraken". The product protection strength of the Kraken, combined with smart standardisation benefits, was achieved by a joint effort from both Mabe and Smurfit Kappa. Both were determined to greatly improve the logistic damage index of the packaging.

The team came up with a single-material solution, in a market where clear-view packaging and EPS inserts are common. Evaluations soon demonstrated that clear-view packaging is too weak to withstand handling during warehousing and transportation, and that packaging-handling was costly due to the many components. Also, the various plastic components were not a sustainable solution. Previously, due to poor stacking strength, products fell, leading to unsafe warehouse conditions, damaged products, and the need for repackaging.

The traditional packaging was formed by solid fibre corner posts, a cardboard tray, and a slip-sheet covered by a shrink wrap all around.

The new Kraken design features a corrugated box with inserts and strengthened corners. The designers were able to fabricate the packaging solution out of 100% sustainable recyclable paper. Furthermore, the Kraken cuts the parts needed in the packaging process by 33% and increases assembly productivity by 80%. Finally, given the original damage

problem, we were pleased to find the new packaging results in a 50% decrease in logistic damage to Mabe's washing machines.

As Mabe Researcher Francisco Hurtado says, 'Understanding and communication were vital to this successful project, and working closely with Smurfit Kappa was the key.'



Mario Ledezma, General Manager of the Guadalupe plant with the new 'Kraken' design for Mabe

SMARTER SUSTAINABLE SOLUTIONS (CONTINUED)

Promoting Inclusivity

People are at the heart of our operations – people we employ and people whose lives we impact. We are proactive in encouraging workplace Health and Safety, customer satisfaction, innovation, and improving processes. These are also an important element to measure our employee engagement. Read more about MyVoice on page 70.

We engage our employees by:

- Aligning them with our principles of maximising value for customers, and delivering operational

excellence. We do this through training, globally-targeted methods like InnoTools by focusing on capabilities and focusing on Health and Safety. Employees are encouraged to 'own' our strategies, get involved and achieve them. We annually report on our achievements in this area in this report's People section.

- Empowering and developing people, engaging them in change, and valuing diversity. In the communities in which we operate, we promote equal opportunities, education, care for disadvantaged

children, health, safety and economic development. These activities empower people, helping to improve their lives.

- Inspiring with authentic principles across our global and local activities, and motivating employees with our culture of learning. Our activities are transparent – mills and plants have an open-door policy for different stakeholder groups. As well as our social and community commitments, we fund scientific studies on environmental and biodiversity issues.

CASE STORY

Smurfit Kappa Piteå – synergies through inclusive communications



Europe's largest manufacturer of kraftliner is characterised by what are probably the shortest meetings in the industry. Every day thirty to forty teams of Smurfit Kappa Piteå in Sweden get together for a quick five to fifteen minute whiteboard meeting that keeps everyone updated on current issues.

Smurfit Kappa Piteå annually manufactures 700,000 tonnes of kraftliner, used for production of high-grade corrugated board. Kraftliner is entirely, or mostly, made of wood raw material, producing a paper of excellent strength, moisture resistance and printability. To produce kraftliner, Smurfit Kappa Piteå uses no fossil fuels, largely due to the biofuel boiler that acts as the mill's energy source.

'We employ 510 people', says CEO of the mill Per Swärd. 'Five years ago, we started to make our operations more LEAN, and as a result we initiated an innovative way to keep everyone informed. All our teams meet daily for a five to fifteen minute standing whiteboard consultation. It is short, efficient, and keeps everyone posted on new developments. Furthermore, we have set up an intranet application that allows all departments to see the operational and progress data of the other departments in the mill. This is

an easily accessible and transparent way to share information, creating inclusiveness, and a mutual understanding of the impact of one aspect of our operations on other activities that are often intertwined.'

'As a result, people are not only better informed about our company, but their understanding of the way we operate on a more detailed level also increases, as does awareness of the impact of their own actions. This makes

co-operation and synergy between our various departments and employees on all levels a much more natural process. Employees become more involved and knowledgeable. We all have access to the same information, so we all work inclusively to achieve joint objectives. These innovations are a holistic approach that promotes our priorities in a very straightforward way and results in successful employee engagement.'

Per Swärd and his team



Stakeholder engagement in sustainable development

Sustainable businesses encourage diverse views, and we provide opportunities for dialogue with the many stakeholders who impact our business. In our experience, this exchange of ideas delivers benefits for everyone.

SUMMARY

Through stakeholder engagement, we are able to scrutinise the way we deliver our commitments in sustainability.

In a business to business environment, we, together with our stakeholders, build on sustainable added-value.

Our holistic approach to sustainability ensures the engagement of our stakeholders.

We build our stakeholder engagement through three lenses: circularity, innovation and inclusiveness.

Stakeholders' opinions help target how we develop our business and innovations, with their level of engagement depending on the topic's relevance to them. Our key stakeholders are customers, investors, employees, communities and suppliers.

Our sustainable value dimensions

Our size gives us a unique position in the paper-based packaging value chain. It enables us to create sustainable value for our stakeholders by meeting their requirements, depending on their areas of interest. For example, we help them meet sustainability commitments with Chain of Custody certification of the packaging production process, by reducing supply chain risks, or by improving measurements and reports of environmental footprint or social impact, adding to their transparency.

We ensure our stakeholders receive these benefits, from requiring high standards of supply chain sustainability to helping customers reduce their carbon footprint through right-weighted, fit-for-purpose packaging. We also help customers track the carbon footprint of every box, so they can reduce and measure their own supply chain emissions.

Our engagement methods

We know which issues are important to our stakeholders through continual multi-level engagement with our customers, investors, employees and other relevant parties. This engagement includes:




- Organising meetings and round-table discussions on sustainability with our stakeholders
- Participating in discussions within and outside our industry through our membership of CEPI and WBCSD
- Participating in CDP, Sedex, FTSE4Good and Ecovadis surveys, and benchmarking against UN Sustainable Development Goals
- Participating in the development of Forest Certification as member of FSC and PEFC.

For stakeholders, our holistic approach ensures:

- **Relevance:** Constant dialogue to understand their sustainable business drivers and help expand their capabilities.
- **Influence:** Valuing their opinion, and sharing experience and best practice from working with a wide range of suppliers and customers.
- **Value:** Ensuring we deliver maximum sustainability value by understanding the sustainability drivers throughout our value chain.
- **Impact:** Sharing knowledge and expertise to increase understanding and find sustainable solutions. We do this through training courses, round-table discussions, and meetings – including awards and partnership debates.

In the table overleaf, we introduce the ways in which we collaborate with our stakeholders in our three focus areas: circularity, innovation and inclusiveness.

STAKEHOLDER ENGAGEMENT IN SUSTAINABLE DEVELOPMENT (CONTINUED)

	Customers	Investors
 <p>CIRCULARITY</p> <p>Working with a circular business model means involving our stakeholders at all stages and adding value to each one.</p>	<p>Our customers want packaging solutions that enable safe deliveries of goods with no damage to the products, efficiently managed packaging recycling, and packaging solutions that help cut waste across the value chain. We collaborate to understand their packaging needs, supply chain challenges and logistics issues.</p> <p>Our circular business model helps us find the best, recyclable packaging solution for each situation while delivering a lower total environmental impact.</p>	<p>Investors benefit from our circular sustainability strategy through lower costs, better efficiency, less waste and increased revenue.</p> <p>Our approach also helps us reduce environmental risks such as volatile carbon prices, avoid regulatory shocks and minimise lost time through our strict health and safety standards.</p>
 <p>INNOVATION</p> <p>Creating a business environment that enables innovation ensures that we and our customers operate at the cutting edge.</p>	<p>We innovate with our customers to develop fit-for-purpose eco-design packaging. Our research insights add context, while InnoTools such as Paper To Box and Pack Expert use customer data for accurate decision making and carefully tailored solutions.</p> <p>Working together on challenges using shared data delivers more innovative outcomes.</p>	<p>Our integrated, data-driven approach helps investors understand that sustainable innovation delivers an attractive return on investment. It allows us to quantify the savings and benefits arising from our packaging innovations.</p> <p>The evidence of the added value of our packaging solutions attracts both reinvestment and sources of new finance.</p>
 <p>INCLUSIVENESS</p> <p>To deliver innovative and circular solutions we believe an inclusive approach works best. Employees, customers, suppliers and local communities all have a part to play.</p>	<p>We aim to drive the take-up of sustainable packaging innovations by making the benefits tangible.</p> <p>Our 23 experience centres showcase solutions and make our global sustainability experience directly available to local and international customers.</p> <p>This can work both ways: we also scale up local innovations to the global level.</p>	<p>Ensuring we live by the highest sustainability standards reduces reputational risk to our business, our customers and our investors.</p> <p>We partner with customers and suppliers to streamline supply chains, reduce CO₂ emissions and minimise waste. We also use our technology leadership in the industry to drive sustainable innovation.</p>

Employees

We help employees fulfil their career potential. In our global, culturally diverse organisation, they are encouraged to explore new roles, responsibilities and locations.

This circulation of talent and ideas helps employees anticipate and meet changing market demands and deliver exceptional and sustainable performance for Smurfit Kappa.

Communities

To promote sustainable societies, we are guided by two principles: careful research and creating win-win solutions.

These approaches help us understand material flows and to close loops. Through them we can develop and support local business ecosystems, and in turn, positively impact the well-being of our surrounding communities.

Suppliers

Sharing our sustainability knowledge, experience and expertise with our suppliers increases the sustainability of our whole value chain.

When they understand what our customers are looking for, it helps us identify opportunities to further increase circularity and add value both up and down the supply chain.

At Smurfit Kappa, talented people can make a real impact. We want them to feel free to innovate and help shape a sustainable future.

Talent thrives in an environment where people feel valued, can grow and where performance, pay and participation are balanced in a safe and healthy workplace.

We work with other industries in our localities and seek win-win solutions for our waste and by-products.

This cross-industry cooperation has delivered both financial and environmental benefits where previously these material streams were sent to landfill.

We encourage our suppliers to be innovative about their products and processes, and we help test and optimise them before they go to market.

Together we have developed food-safe, efficient products such as soluble printing inks, starch and glue from sustainable sources.

Whatever their occupation, our aim is to make employees feel included and appreciated as part of a team.

Our entire workforce is involved from home to the workplace in our zero fatalities goal. Our Group health and safety policies align with OHSAS 18001.

Outstanding ideas of employees are rewarded through our Innovation and Sustainability Awards.

Across our operations we strive to share value from our business growth with the communities where we are located.

We involve people through local initiatives, encourage employee volunteering and make appropriate charitable donations.

Valuable local knowledge helps us to optimise our operations.

Whenever possible, we procure our products and services from local suppliers.

The interactions between our operations and the businesses around them help to keep finances flowing through the local economy.

CASE STORY



The road to sustainability: customer-supplier collaboration

Smurfit Kappa and Chep have a close relationship with Unilever in Leeds (UK). Smurfit Kappa supplies packaging materials and Chep manages, maintains and transports pallets. Both suppliers actively aim to make the supply chain more durable, and found out that close cooperation could make their work for Unilever significantly more sustainable.

'Improving the supply chain is a never-ending quest', says Howard Ellison, Supply Chain Manager North for Smurfit Kappa UK. 'It doesn't always involve technological innovation, but, just like in this case, an open mind to creatively rearrange existing processes can be just as successful and inspiring. Our joint effort with Chep and Unilever not only resulted in remarkable sustainability improvements, it won the Smurfit Kappa UK Supply Chain Award in 2016, and the European equivalent in 2017. We also got shortlisted for the IDG Awards 2017 in the Supply Chain Collaboration category. It's great for all the people involved to receive professional recognition.'

All the inbound and outbound deliveries to the Unilever location in Leeds are on Chep pallets. The site has a surplus of close to 200,000 pallets annually. These pallets used to be managed and collected, on average, just over nine times a week on Chep vehicles resulting in 468 truckloads per year. At the same time, Smurfit Kappa West Auckland collected the pallets needed for packaging from a Chep Service Centre. Pallets were transported to Smurfit Kappa, loaded, and delivered to Unilever, and the Smurfit Kappa truck returned empty. Together the three companies devised a two-way transportation system.

Howard Ellison summarises: 'After a three-month trial, we managed to smoothly operate the simplified supply chain and reduce vehicle activity by 50%. Our efforts resulted in 75,000 kilometres less empty truck loads, a reduction in CO₂ emissions totalling 75 tonnes, and transport collection savings for Unilever. All collections are now co-ordinated through Smurfit Kappa. This means we're able to maximise vehicle use, reduce collections from Chep Service Centres, and save a significant amount in costs.'



CASE STORY



Mom designs affordable board toys for kids

Eva Castrillo is the mother of an eight-year-old boy, and works as a designer for Smurfit Kappa in Venezuela – a combination that sparked her creativity. Due to economic conditions, it is difficult for many Venezuelan parents to buy toys for their children. The price is simply too high, and it is more important to put a proper meal on the table.

'Kids need to be kids. I am reminded of that every day with my son,' says proud mother Eva Castrillo. 'Even when children do not have any toys, they find ways to play with old boxes or whatever they can find. When I noticed that in other countries, cardboard is sometimes used to produce low-cost toys, I connected the dots and got together with Marysabel Martinez, my colleague and graphic designer from Smurfit Kappa Corrugado Valencia.'

'The first design was a toy kitchen made of cardboard. It worked out

very well, and stimulated us to try other designs too, like a whole range of toy appliances. It did not take long to come up with a lovely refrigerator, sink, and dishwasher. Of course, we thought the kids might appreciate some kitchen utensils too. All the designs are created out of B flute board and my son had a great time being the 'test pilot' for many designs,' smiles Eva Castrillo.

The production of carton-toys also proved to be an opportunity for Smurfit Kappa. Due to a decline in the demand for corrugated

boxes, excess capacity could be utilised to produce this new line of cardboard toys. The idea, born out of economic necessity for many families, proved to appeal not only to kids, but also to various distributors who want to make the carton-toy designs widely available for youngsters in Venezuela. These toys aren't just affordable, they also stimulate creativity and social interaction among children. Even EPA, a well-known chain of hardware and household goods in Venezuela, has shown interest.



Marysabel Martinez
and Eva Castrillo

Smurfit Kappa is committed to strive for the highest standards of corporate governance and ethical business conduct. We have instilled our commitment from the boardroom to the factory floor and throughout our operations and supply chain.

SUMMARY

Smurfit Kappa is committed to strive for the highest standards of corporate governance and ethical business conduct.

The Smurfit Kappa Group Executive Committee demonstrates leadership on sustainability throughout the business and reports on progress to the Board.

Our responsibility in our value chain extends to requiring the same ethical business standards from our suppliers.

90% of our strategic and important suppliers of key materials, goods and services carry moderate to low supply chain risk.

Corporate governance

We believe that ethical business conduct must be promoted from the most senior levels of the business, and fostered through the whole organisation. While Smurfit Kappa always aims for the highest standards of corporate governance, we expect this standard from our suppliers as well. This section summarises the Group's governance in the area of sustainable business conduct and our approach to supplier compliance. For further information on corporate governance, see our Governance section in the 2017 Smurfit Kappa Annual Report on pages 68-101.

Lead from the top

The Board has overall responsibility for ensuring the Group demonstrates leadership within the paper-based packaging sector, promoting an actionable sustainable development agenda. To this end the Group CEO sponsors the development and implementation of Smurfit Kappa's sustainability policies.

The Group Executive Committee sets out our strategy and objectives for sustainable development and reviews its progress. The Group Executive Committee is supported by a Sustainability Working Group, comprised of key representatives from operations in Europe and the Americas, as well as Group level participation, and is led by the Group Vice President Development who also is a member of the Group Executive Committee. The Working Group's task is to monitor the implementation of the Group's sustainability strategy and monitor how the targets are met across all material areas, and to promote sustainability

targets among Smurfit Kappa's customers, suppliers and corporate peers.

Complying with regulations and guidelines

It is Group policy to comply, at a minimum, with the relevant laws and regulations in each country in which we operate. We ensure that our employees are aware of this and conduct themselves appropriately. Reflecting this, during 2017 no material fines were imposed on the Group for any breaches of such laws and regulations.

To demonstrate our commitment, wherever possible we go beyond minimum compliance with regulations, and maintain the highest reporting standards. Additional detail about our voluntary actions in legal and regulatory matters are included in the section our priorities and performance, pages 32-79. Our entire sustainable development report is assured applying the 'Comprehensive' version of the G4 guidelines of GRI.

In addition, each significant business unit is subject of an external and independent financial audit conducted annually by the Group's external auditors. Most of our other business units are the subject of local statutory financial audits. We also have our own Internal Audit department which, during 2017, performed 88 detailed internal financial and IT audits. During 2017, updates on the Group's General Data Protection Regulation readiness project were provided to the Audit Committee by the Group Compliance Manager.

Code of Business Conduct and corporate policies

The Smurfit Kappa Code of Business Conduct (the 'Code') applies to the Group's Board of Directors, officers and employees worldwide. We require all individuals, entities, agents, or anyone acting on the Group's behalf, to comply with the Code, which has been translated into 17 languages to ensure full accessibility.

The Code takes account of the following international conventions and codes:

1. International Labour Organisation (ILO) Declaration on Fundamental Principles and Rights at Work (core conventions)
2. UN Declaration on Fundamental Human Rights
3. OECD Guidelines for Multinational Enterprises
4. UN Global Compact.

The Code provides accessible and understandable guidance for each employee in every jurisdiction. It sets out our expectations from employees for compliance with local, regional, and national law, adherence to ethical standards, and commitment to quality and service.

Each Group company and its employees are required to apply the Code and abide by the laws and practices required for their industry under the jurisdiction in which they operate. The Code makes it clear that personal and professional integrity is essential to conduct business in an ethical manner.

During 2017 there were no material incidents reported which the Group considered to be non-compliant with the Code of Business Conduct.

The Code is supplemented by policies relating to our operational and managerial practices. To be an example to our peers and competitors, but most importantly to our own employees, we have created policies in key areas of sustainability that are integral to Smurfit Kappa's performance. These policies cover Environment, Sustainable Forestry and Fibre Sourcing, Sustainable Sourcing, Social Citizenship, and Health and Safety. All our codes and policies are available on our website: www.smurfitkappa.com.

Smurfit Kappa is also subject to the provisions of the UK Modern Slavery Act. In recognition of the nature and concern about modern slavery, we continuously review and update our principles and policies with respect to our employees and suppliers, to ensure compliance. Our Modern Slavery Statement published in 2017 is available on our website and an update to it will be published in June 2018.

Demonstrating leadership

Our goal is to be the most sustainable paper-based packaging solutions company globally. Along with sharing our sustainability experience with our customers and suppliers, we believe it is important to share these, and potential challenges, within our industry.

We are involved with selected trade bodies to influence understanding, and share knowledge on embedding sustainability throughout operations, including:

- Confederation of European Paper Industries (CEPI) – Group and National level membership. Smurfit Kappa's Group CEO is currently a board member.
- European Corrugated Packaging Association (FEFCO) – Group and National level membership. Smurfit Kappa's CEO for Europe is currently a board member.
- International Corrugated Case Association (ICCA). Smurfit Kappa's CEO for Europe is currently a board member.
- Asociación de Corrugadores del Caribe Centro y Sur América (ACCCSA). Smurfit Kappa's CFO for The Americas is currently a board member.

In addition, we are active participants in and signatories to many environmental reporting and sustainability organisations:

- CDP (formerly Carbon Disclosure Project)
- UN Global Compact
- UN Global Compact's CEO Water Mandate
- The European Round Table of Industrialists (ERT)
- The Forest Stewardship Council (FSC)

- The Programme for the Endorsement of Forest Certification (PEFC)
- The Supplier Ethical Data Exchange (SEDEX)
- World Business Council for Sustainable Development (WBCSD).

Influencing public policy for good

As a multinational organisation, our businesses are subject to the legislation and regulations of the jurisdictions in which they operate. In that context, Smurfit Kappa upholds standards on a variety of matters material to our business, representing them to the parties concerned, either directly or through industry bodies, such as CEPI, FEFCO or ERT. We also work closely with the Irish Business and Employers' Confederation (IBEC) and equivalent bodies in other countries.

At all times the people representing the views of Smurfit Kappa do so with reference to the Code of Business Conduct, and the local laws and regulations which apply to the Group's operations. There were no significant criticisms of the Group in this respect in 2017. In line with the Group's Code of Business Conduct, no financial contributions were made to political parties in 2017. No national government is a direct investor in Smurfit Kappa.

Safe products and satisfied customers

Product safety is an integral part of our business. Packaging is used to deliver and store our customers' products safely and our packaging solutions are safe to use. Our products meet all food safety standards, including OECD guidelines for Multinational Enterprises. We have prepared statements on food safety and REACH to our customers and they are available on request.

Smurfit Kappa is a highly customer centric organisation that puts "customer experience" at the heart of its operating model. We bring in data and analytics-based insights about what really matters to customers and how best to deliver it to them. The strategic objective of delivering an enhanced customer/buying experience is to create, communicate and capture measurable value for our customers and key stakeholders.

ETHICALLY AND RESPONSIBLY (CONTINUED)

By equipping our employees with the best tools and skills we can ensure that we create new experiences and tap new sources of value for our customers across multiple sectors. In 2015, we introduced a commercial excellence programme to the organisation and coached circa 1900 Smurfit Kappa employees in a Customer Value programme. In 2016-17, this has been followed up with a further 60 reinforcement sessions with over 800 participants across 16 countries in Europe. We are now rolling out the programme in the Americas to ensure a consistent approach to our customers.

We are always introducing tangible methods and tools to measure customer satisfaction. We use Customer Relationship (CRM) tools to follow-up customer feedback and utilise these insights throughout the organisation to maximise customer satisfaction. Delivering a great customer experience calls for disciplined execution and consistent service delivery. By analysing our customer journeys we not only pinpoint the operational improvements that will have the biggest effect on customer experience but link this to what drives customer value and loyalty. Smurfit Kappa's objective is to turn customer experience into a source of delight for customers and a new and sustainable source of differentiation for ourselves.

Supplier compliance

Sourcing of materials, goods and services represents the single largest cost item for Smurfit Kappa. In 2017, we spent €5.1 billion on raw materials, energy, transportation, maintenance/repair, and investment goods.

Sustainable sourcing is an integral part of Smurfit Kappa's sustainability vision and strategy. To be able to sustainably grow our business, our materials, goods and services must have the right quality and cost, but also be securely and responsibly sourced. Our sustainable sourcing programme helps us to deliver our five strategic sustainability areas: Forest, Climate Change, Water, Waste and People.

Our approach to sustainable sourcing goes beyond regulatory requirements. By developing more sustainable supply chains in collaboration with our suppliers, we can manage risks and

costs, innovate, develop new revenue streams, and add value to the brands of Smurfit Kappa and our customers.

Of course, sourcing of raw material, goods and services is governed by international, national and regional regulations. However, to meet our own and stakeholders' requirements and deliver on our commitments, we have a sustainable sourcing policy, informed by the Smurfit Kappa Suppliers' Code of Conduct (see: www.smurfitkappa.com, policies).

We encourage our suppliers to participate in commonly-accepted best practice and certification schemes. These include good non-financial reporting under the UN Global Compact, and according to the GRI criteria; reporting on social data to Sedex; creating ISO 14001 environmental and ISO 50001 energy management systems, and conforming to relevant CDP disclosures. These standards add to our credibility, as well as that of our suppliers'.

Smurfit Kappa's sustainable sourcing programme is built on seven pillars (shown in diagram overleaf). These are quality, hygiene and safety, business continuity, manufacturing, continual improvement, service and technical support, and environment and sustainable development. All of these have strong sustainability implications: assessing supplier risks; focusing on relevant supplier processes (especially regarding business continuity); mitigating risks related to environmental, social and equality issues, and reducing waste by meeting food safety requirements. By focusing on these, we can promote sustainable growth and find opportunities and synergies with our suppliers.

Supply chain risk

The most relevant sourcing category for us and our stakeholders is raw materials. Since we work with fibre-based products, sustainable sourcing of wood and recovered paper is vital. Our own forestry operations and wood, pulp, paper and recovered-paper sourcing are controlled by our Forestry and Fibre Sourcing Policy. A more detailed report on these activities can be found in the section Forest on pages 34-41.

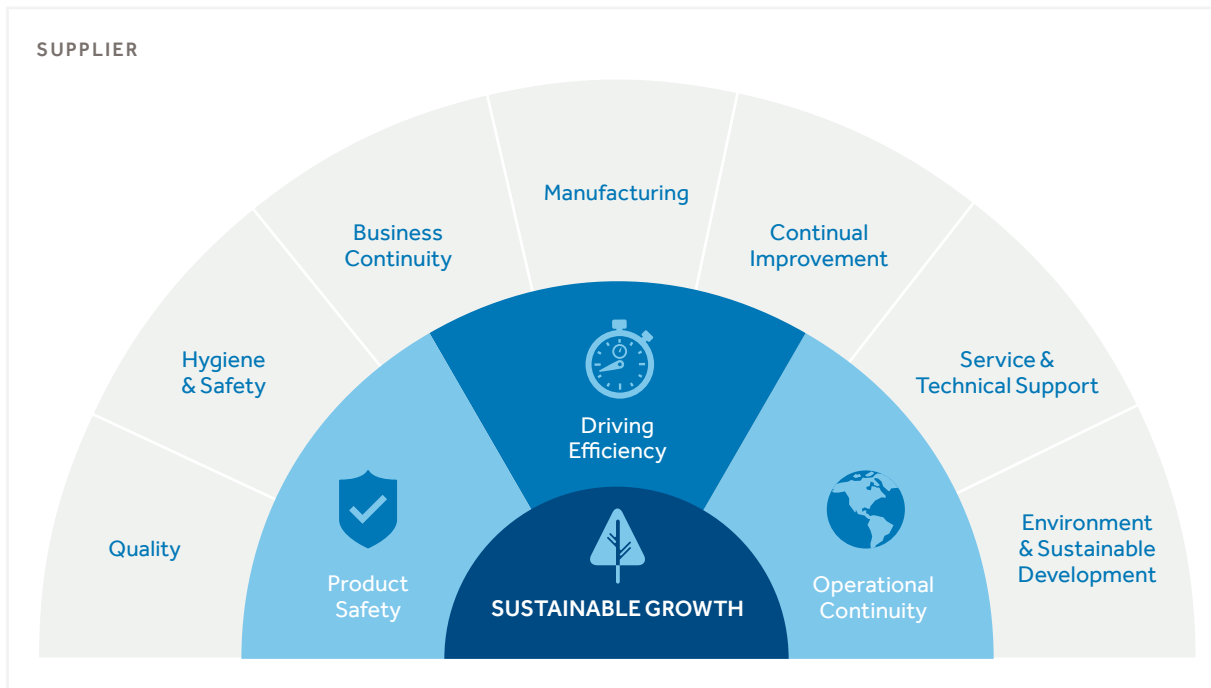
To be part of our vision and strategy, all suppliers must adhere to the Smurfit Kappa Suppliers' Code of Conduct, either by signing up to it, or by being committed to a compatible policy. Suppliers are also required to follow our Sustainable Sourcing Policy, and all other relevant Smurfit Kappa policies.

To manage risks, we base our sustainable sourcing programme on risk mapping. This begins by identifying the most critical supplier groups. Our priority is to ensure these meet our sourcing criteria. These criteria are: global spend, global presence, technological innovation, service level, and reputation. Risk mapping then considers the sourcing categories with the highest impact on our products, and therefore to our stakeholders.

Our sourcing network includes suppliers ranging from small-scale local companies to large multinationals. In total, an estimated 75% of our suppliers' deliveries can be classified as local.

Based on our risk mapping, we audit our suppliers on the seven pillars of our sustainable sourcing programme. Focusing on supplier audits enables us to build competence in our supplier base, increasing understanding of Smurfit Kappa's key requirements and those of our stakeholders. From this we have learned our suppliers are committed, and see the programme as an opportunity to learn. The suppliers receive a rating for each of the seven pillars and if the result is below satisfactory, an improvement programme is devised. If a supplier fails to commit to the improvement action list, we may terminate the business relationship.

Our risk mapping, taking into consideration criteria such as geographic location, type of industry, size and robustness of supplier's management systems, combined with supplier audit results, show that 90% of our important suppliers of key materials, goods and services carry moderate to low supply chain risk. In 2017, supplier improvement opportunities typically included hygiene and environmental management systems.



Progress

Our sustainable sourcing programme started in 2010, and since then we have audited all of our strategic suppliers, ensuring our key materials, goods and services are managed sustainably and meet our standards. In 2017, a total of 95 supplier audits were performed including first-time and re-approval audits. Of these, 60% were of strategic suppliers. We regularly monitor that our audited suppliers are also members of Sedex or are otherwise assessed on their ethical practices.

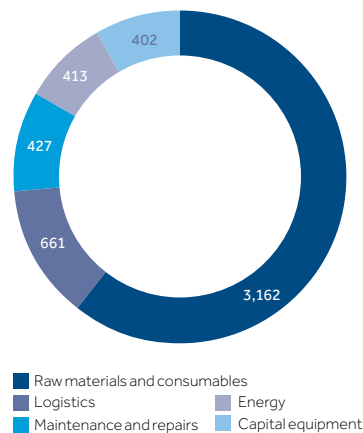
Following the initial audit, we work with each supplier in identifying continual improvement opportunities. During 2017, 58 suppliers were audited for the first time under our sustainable sourcing programme. 83% of all suppliers audited during 2017 scored satisfactorily, and the remaining will pass the audit once they complete improvement plans. 16 suppliers audited in 2017 operate in areas of high supply chain risk to us, so, despite passing the audit, a close-monitoring programme is being implemented with 15 of these suppliers (one supplier has been reclassified).

New developments in the auditing process include, during 2017, a special focus on the UK Modern Slavery Act. We have implemented the requirements of the Act in our sourcing programme, and increased supplier screening on human rights. 23% of our supplier audits have focused on suppliers either present in, or supplying to, the UK.

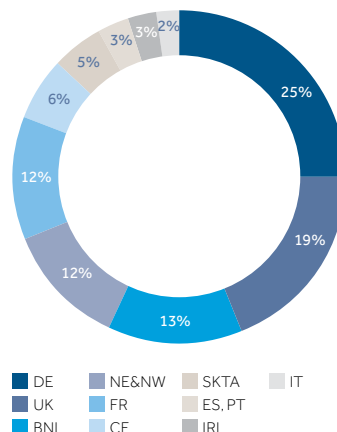
Adding transport to the auditing process supports this, as illegal transport of persons is a factor in modern slavery. In addition, we have also added energy supply audits to the programme and in our North American operations, we implemented a Supply Chain IT system based on SAP which includes full log details of Chain of Custody information concerning paper sourcing.

We implemented a pilot scheme to widen the scope of our supplier assessment, from strategic and important suppliers to our whole supplier base. The results show that our own audit programme achieves the best topic-coverage for us, and achieves a credible assurance of the risk level in our supply chains. We will continue to work on developing an efficient system to use our sustainable sourcing programme for our entire supplier base.

TOTAL SOURCING COSTS €5.1BN



2017 SUPPLIERS AUDITED BY COUNTRY 95 SUPPLIERS AUDITED





A person wearing a high-visibility yellow safety vest over a blue shirt is holding a clipboard. They are standing in front of a glass wall that features the Smurfit Kappa logo and the company name. The background shows an industrial setting with a large structure, possibly a paper mill.

Smurfit Kappa

Our priorities and performance

International Graduate, Marta Cuenca (left) and Production Superintendent, Jo Mills (right) are members of the Operations team at our Townsend Hook paper mill in Kent, UK. Smurfit Kappa invested over €100 million in a new paper machine a few years ago. As part of that investment we are currently installing a new Combined Heat and Power installation that will further improve Townsend Hook's energy efficiency and also significantly lower its relative fossil CO₂ emissions.

MATERIALITY

Taking a strategic approach to understand the material sustainability issues for our business helps us to better understand how to identify opportunities, mitigate risks and influence the areas that impact the most.

To assess the sustainability factors within the business environment we operate in, we identify the most relevant environmental and social elements within our value chain, and consider the impact we have on them, or they have on us. These impacts can be financial as well as social and environmental, and can affect all our stakeholders including our communities, as well as ourselves through e.g. regulations, and our environment.

Following the steps below, we carry out a thorough materiality assessment every three years. The most recent was conducted in 2016.

Our process has three stages:

1. Assessing internal and external factors material to our business
2. Benchmarking factors material to our stakeholders

3. Stress testing issues identified with stakeholders.

This way we are able to limit the issues we report and measure only those on which we have a direct impact through our activities.

Internal and external factors

When identifying the most material aspects arising from our operations, we take account of internal and external factors. These include the issues identified in our overall vision and mission, vision on sustainability, long-term strategy and the Code of Business Conduct, which governs Group behaviours and activities.

We review these material aspects and processes against external developments such as emerging regulation, environmental standards and approaches to certification. Additionally, we extend and refresh

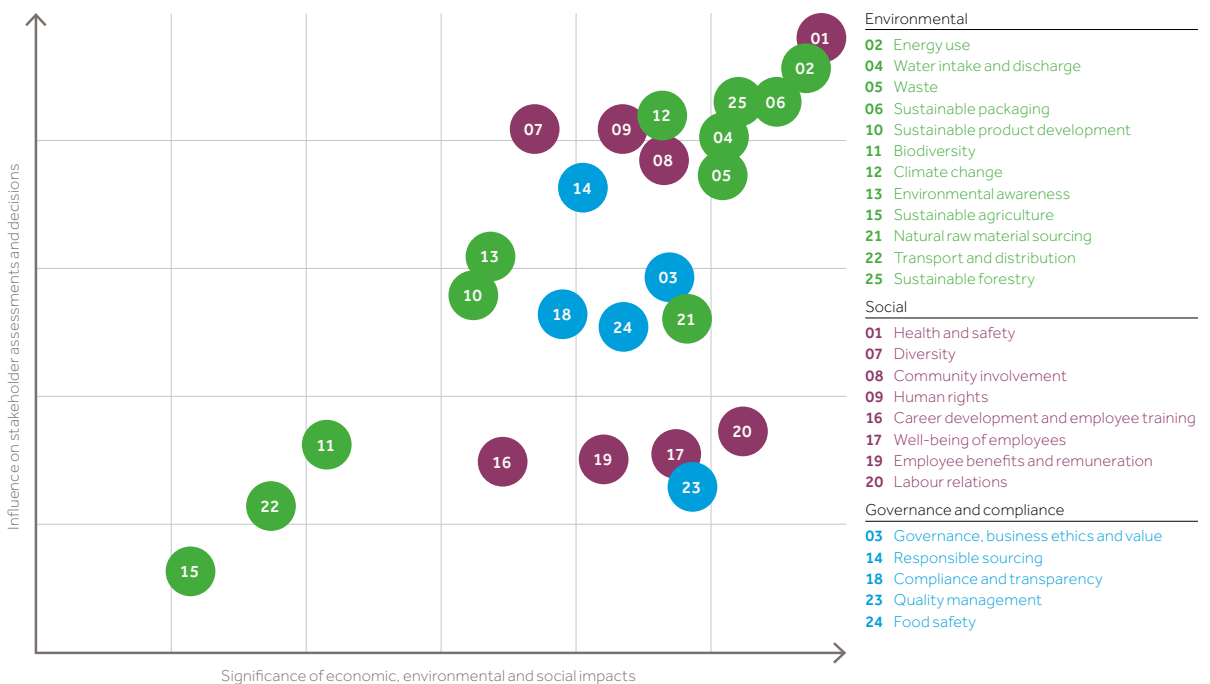
our knowledge by working with peers on collaborative projects. How we do this is explained in **Ethically and responsibly** (pages 26-29).

Stakeholder benchmarking

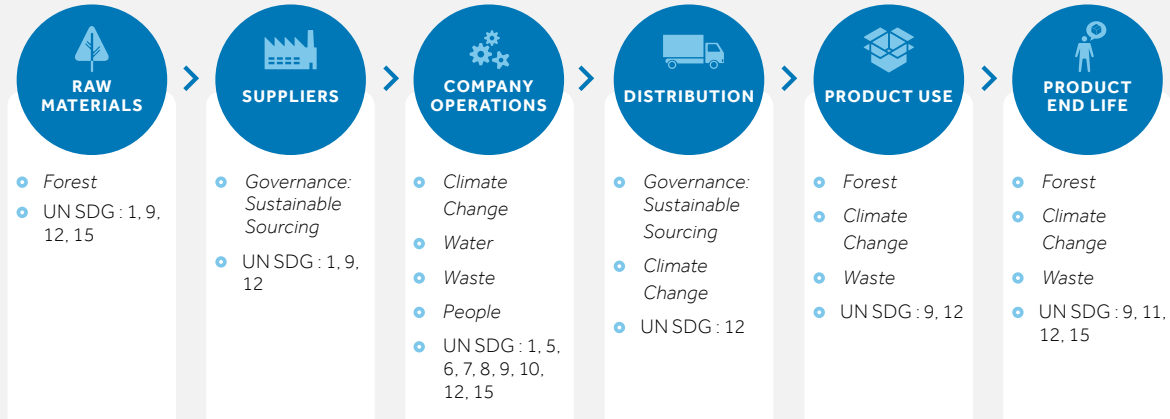
The material aspects identified as a result of the above analysis are then benchmarked against the views of customers, investors, suppliers and corporate peers. Using sustainability reports and websites, we identified 82 of the most relevant of these stakeholders. We review the materiality assessments undertaken by each of them, and test how frequently the material aspects they have identified match our own.

This enables us to establish which aspects are the most important to our key stakeholders.

MATERIAL ASPECTS FACING SMURFIT KAPPA



SMURFIT KAPPA SUSTAINABILITY IMPACT THROUGH VALUE CHAIN *(Material topics in italics)*



UN Sustainable Development Goals (UN SDG):

- | | | |
|-------------------------------|--|--|
| 1. No Poverty | 7. Affordable and Clean Energy | 13. Climate Action |
| 2. Zero Hunger | 8. Decent Work and Economic Growth | 14. Life below Water |
| 3. Good Health and Well-Being | 9. Industry, Innovation and Infrastructure | 15. Life on Land |
| 4. Quality Education | 10. Reduced Inequalities | 16. Peace, Justice and Strong Institutions |
| 5. Gender Equality | 11. Sustainable Cities and Communities | 17. Partnerships for the Goals |
| 6. Clean Water and Sanitation | 12. Responsible Consumption and Production | |

Stress testing

Material aspects vary across countries and regions. For example, in Europe we found environmental aspects to have a higher priority, whereas in the Americas social aspects are considered more important.

Acknowledging these regional differences, the final phase of our materiality assessment involves stress testing each material aspect for its relevance and priority to our national and international stakeholders. We use a variety of techniques, described in **Stakeholder engagement in sustainable development** (pages 21-23), to gather feedback from our stakeholders, and use qualitative analysis to determine the significance and priority of each material aspect.

The materiality matrix on the previous page shows the outcome of our three-step assessment. To aid understanding, the aspects are grouped under three key categories: environmental, social and governance and compliance.

Although not all aspects highlighted in the matrix are of equal importance to Smurfit Kappa, they were considered in determining issues material to our business and our sector. For transparency, they are plotted in accordance with GRI guidelines.

In conclusion, five key strategic sustainability priorities emerge from the materiality analysis which provide the focus for our daily operations and reporting. Four of these topics are environmental, and one is social. All are relevant for compliance. Our five strategic priorities are:

- Forestry, including sustainable forestry, biodiversity and natural material sourcing
- Climate change, including energy use, energy efficiency and transport and distribution
- Water, including water intake, use and discharge
- Waste, including discussions on avoiding waste to landfill and hazardous waste

- People, including health and safety, diversity, human rights, career development and employee training, well-being of employees, labour relations and community involvement.

To demonstrate the global context of the issues and their impacts we have matched those UN Sustainable Development Goals relevant to us with our material priorities throughout our value chain. This approach helps us to show where our risks and opportunities lie.

The material relevance of each priority is explained in the following sections. The topics directly related to governance or sustainable sourcing have been discussed in **Ethically and responsibly** (pages 26-29).

Wood fibres are the core component of our paper products. Whether they are virgin or recycled, from our own plantations and forests or those of others, we make sure their sustainability credentials are of the highest standard.

SUMMARY

Both virgin and recycled fibres are needed for long-term sustainable paper production.

We maintained our commitment to produce and purchase all our fibres through certified Chain of Custody management systems and sold 88% of our packaging solutions as Chain of Custody certified.

Our virgin and recycled fibre balance in 2017 is 26% and 74% respectively.

In Colombia and Venezuela some 35,000 hectares of land is protected, natural forest.

As we manufacture paper and paper-based packaging solutions, our stakeholders, and particularly our customers, expect Smurfit Kappa to use sustainable raw materials, and communicate our impact in a transparent and credible way. The forest sector is a major user of wood, and has a significant influence in driving sustainable forest management. Therefore, both the industry and Smurfit Kappa play a key role in ensuring resources are used responsibly. When we use virgin fibres, they are from sustainably managed forests, while recycled fibres are recovered from paper as efficiently as possible.

Virgin wood fibres will always be needed for paper production. Fibre can only be recycled about eight times before its quality becomes too poor for paper production, and this means that sourcing some virgin raw material from forests is unavoidable. Globally, we use fresh wood fibres and recovered paper to produce virgin and recycled paper at a long-term average ratio of 25% to 75% respectively. Our strong focus on recycled fibre and efficient use of resources makes us a contributor to the circular economy and to United Nations Sustainable Development Goal (UN SDG) 12: Responsible consumption and production.

When managed well, forests can supply sufficient quantities of sustainable, renewable fibre as well as job opportunities in areas where employment is not always easy to find. Our commitment to managing our own plantations and forests sustainably, and demanding the same from our suppliers, contributes to UN SDG 8: Decent work and economic growth, and UN SDG 15: Life on land.

Smurfit Kappa manages its own eucalyptus, gmelina and pine plantations in Colombia and Venezuela, as well as third party forests in France and Spain. We also procure certified Chain of Custody wood for pulp from suppliers throughout Europe, including from Austria, France, Germany, Spain, Sweden and the Baltic countries.

Like our stakeholders, we demand the highest standards of ourselves, and in our sector that means sustainable forest management certification and related Chain of Custody systems throughout the value chain, from forest to end product. We hold our suppliers to the same standards.

Risks, challenges and opportunities

Global population growth, along with middle-class growth, increases the need for goods and services. To be able to sustainably respond to this consumption growth, the role of performance-based, fit-for-purpose packaging will increase, especially in developing and emerging economies. UN SDG 12.3 aims to halve food waste by 2030, and reduce food losses in production and supply chains, including post-harvest losses. According to FAO, packaging plays a crucial role in achieving this, as it protects goods and helps in their correct consumption. Meanwhile, consumers and the public sector are increasingly aware of sustainable consumption, sustainable origin, and recycling of materials. More attention is also needed on using correct packaging materials and avoiding packaging litter. These factors set the scene for risks, challenges and opportunities for paper-based packaging.

Sustainable forest management

Natural resource depletion and climate change are the source of global concerns about deforestation. Forests host ecosystem services that are critically important for life on earth, managing local climate and natural water cycles. The forest industry is an obvious user of forests, and although forest areas are still lost mostly to agricultural land, the forest sector carries a reputational risk of contributing to deforestation. Long-term climate change and deforestation may be a factor in fresh fibre availability for the industry, especially if worldwide consumption grows faster than paper recycling rates.

Deforestation has been addressed in UN SDG 15.2, which states the need for promoting and implementing sustainable management of all forest types, as well as the need to halt deforestation, restore degraded forests and increase afforestation and reforestation. Our operations are subjected to sustainable fibre origin regulations through the EU Timber Regulation, as well as the US Lacey Act. Furthermore, demonstrating responsible wood fibre sourcing is a prerequisite from many of our customers and investors, who demand additional proof through voluntary third-party certification.

The forest sector has been using voluntary mechanisms that support forest legislation for decades. Forest certification, and related Chain of Custody certification, are the most advanced sustainable raw-material origin certification systems for example in the area of biodiversity according to a study by SSI. They also address responsible employment in accordance with UN SDG 8 (in particular 8.7 and 8.8), and fair compensation to forest owners. The forest sector could still do much to improve this, as, according to the UNECE/FAO Forest Products Annual Market Review 2015-2016, only 29% of industrial roundwood is certified to internationally accepted forest management standards.

For Smurfit Kappa, the best way to meet these requirements is to implement forest certification and Chain of Custody certification, providing traceability to our pulpwood's origin. We believe that the three international forest management certification schemes – Forest Stewardship Council® (FSC), Programme for Endorsement of Forest Certification™ (PEFC), and Sustainable Forestry Initiative™ (SFI) – give the best assurance of sustainability.

Being one of the leaders in sustainable sourcing of fibres offers Smurfit Kappa a competitive advantage. The forests and plantations owned and/or managed by Smurfit Kappa are certified by FSC and PEFC Forest Management standards where practical. Furthermore, the Group has invested in certified Chain of Custody management systems throughout the value chains of all its operations, to be able to offer its customers certified packaging solutions from any production unit. Smurfit Kappa is industry-leading in extending these measures.

However, FSC and PEFC have also faced issues with the integrity of their Chain of Custody systems. To address these, both schemes have made efforts to improve, including revising their Chain of Custody and Controlled Wood standards, and creating platforms that increase transparency for certificate holders' data. As an active member of FSC International and PEFC International, Smurfit Kappa supports these processes.

Sustainable balance of fibre use

Increased global consumption, and pressure to avoid food waste, means increased need for fit-for-purpose packaging. However, the end of 2017 saw a new wave in global concerns about litter remaining in the environment for decades, leading to increased interest in renewable, biodegradable packaging materials. At the same time, some markets experienced campaigns to increase their recycled content.

In line with UN SDG 12.5 and in response to the EU Circular Economy Package, global paper-based packaging recycling continues to improve, and increased paper recycling has a positive impact on the fibre supply. However, using recycled fibre reduces the quality of recovered paper, and also of newly-made recycled paper. With current regulatory and product supply chain requirements, virgin fibre solutions are the only suitable packaging options in product groups like food-contact or frozen foods. The challenge for the sector is to find a balance between sustainable use of virgin and recovered fibres. The key to that balance is sustainable forest management practices, and only using sustainable origin/Chain of Custody certified material. At Smurfit Kappa, our ambition is to deliver fit-for-purpose packaging for which the correct papers are chosen to reach the best overall environmental footprint for each package.

The paper-based product industry can also work to improve the quality and lifespan of fibres. We participated in the World Economic Forum Project Mainstream which published a set of guidelines for improving the recyclability of paper in 2015, including guidance on the use of inks and glues that can be more easily removed from recovered fibre, thus improving fibre quality and increasing recycling. The World Business Council for Sustainable Development Forest Solutions Group, of which we are a member, is working to find further solutions for the circular loops within the forest industry.

This challenge comes with an opportunity – to find innovative solutions for the current situation. We need to move away from basic packaging, to solutions that consider the packaged product's supply chain demands and optimise use of recycled and virgin fibres. Smurfit Kappa's innovative tools help our customers take full advantage of this opportunity. Communicating our use of sustainably-sourced, certified fibres, helps us to maintain and expand our customer base to include large, demanding, market leaders.

FOREST (CONTINUED)

Finally, finding solutions to improve the quality of recovered fibres strengthens the circular loop between paper-based packaging producers and the final users. This means that the responsibility for keeping fibres in the recycling loop is not only in hands of the paper industry, but in all who participate in it. Smurfit Kappa's recycling operations have established new partnerships with retailers who are conscious of their waste and strive to find win-win practices, such as the collection of used packaging.

Wood-based subsidies and their effects on wood markets

The 2020 EU Renewable Energy Policy targets are supported by subsidy schemes, and these increase the price and affect availability of our raw materials. For the 2020-2030 period the target for renewable energy has been increased – participants are expected to procure 27% of their energy from renewable sources by 2030. The EU has called for an improved biomass policy to allow for fair competition between the various uses of biomass resources in, for example, the paper and pulp industries. This supports our favoured concept of resource hierarchy, with

policy support for the highest added-value applications for fibre, such as producing paper, over lower added-value applications, such as energy generation.

Our commitment to sustainable fibre

Our target is to source virgin fibres from certifiably well-managed forests, or at least those of non-controversial origin, so that also recycled fibres are traceable to the collection point. We require all materials to be delivered through a third-party-verified Chain of Custody certified supply chain. We accept FSC, PEFC and SFI certified wood, and the Chain of Custody systems at our mills and plants also cover recycled fibre sourcing.

This means that the packaging products we deliver to our customers should meet the above requirement, but also meet the commitments we make in our various policy statements (Forestry Policy, Code of Business Conduct, Social Citizenship, among others). Most of our commitments have been covered by the Chain of Custody certification standards. These concern all fibre and fibre-based products we use or manufacture, whatever their origin or form.

A total of 57% of the wood used for producing virgin paper or pulp in the Smurfit Kappa mill system, comes from forests certified under the FSC, PEFC and/or SFI schemes, and the remaining 43% is wood from non-controversial origin. The small drop in certified wood deliveries compared to 2016 is due to Venezuela where plantations that are not certified against FSC Forest management standards were due to be harvested. This status has been risk-assessed through our FSC and/or PEFC Chain of Custody system, and verified by a third party.

Annually, Smurfit Kappa's recycling operations handle some 5.1 million tonnes of recovered paper in Europe, and 1.1 million tonnes in the Americas. We have a network of 15 recycled paper depots in Europe, and 31 in the Americas, supplying recovered paper from municipalities, retailers, industries, and our own corrugating and converting operations. More about the way how we work on recovering paper can be read in the following case story on our collaboration with City of Malaga.

FIBRE ORIGIN 2017

○ Recycled pulp produced internally	56.8%
○ Wood pulp produced internally	17.8%
○ Recycled paper purchased	17.6%
○ Virgin papers purchased	6.8%
○ Market virgin pulp	1.0%

All operations including paper and board mills, corrugated board converters and plants



CASE STORY



Cleaning the historical city centre of Malaga

Malaga is Spain's sixth most populous city, with over 560.000 inhabitants. Annually, over a million tourists visit the historic city centre. Tourists and citizens produce a lot of garbage, including paper waste. The city initiated a strategic partnership with Smurfit Kappa to increase recycling rates. The goal is to make the inner city a cleaner place, whose historic beauty can be proudly displayed to city inhabitants and visitors alike.

In the autumn of 2016, the city's environmental department approached Smurfit Kappa to help improve paper and cardboard collection. The tender also included collection of 600 tonnes per month of waste paper, an important supply of raw material for the Smurfit Kappa Mengibar mill. Just a few months after the first call, Smurfit Kappa had four people with specialised vehicles collecting paper and board daily from shops, restaurants and hotels.

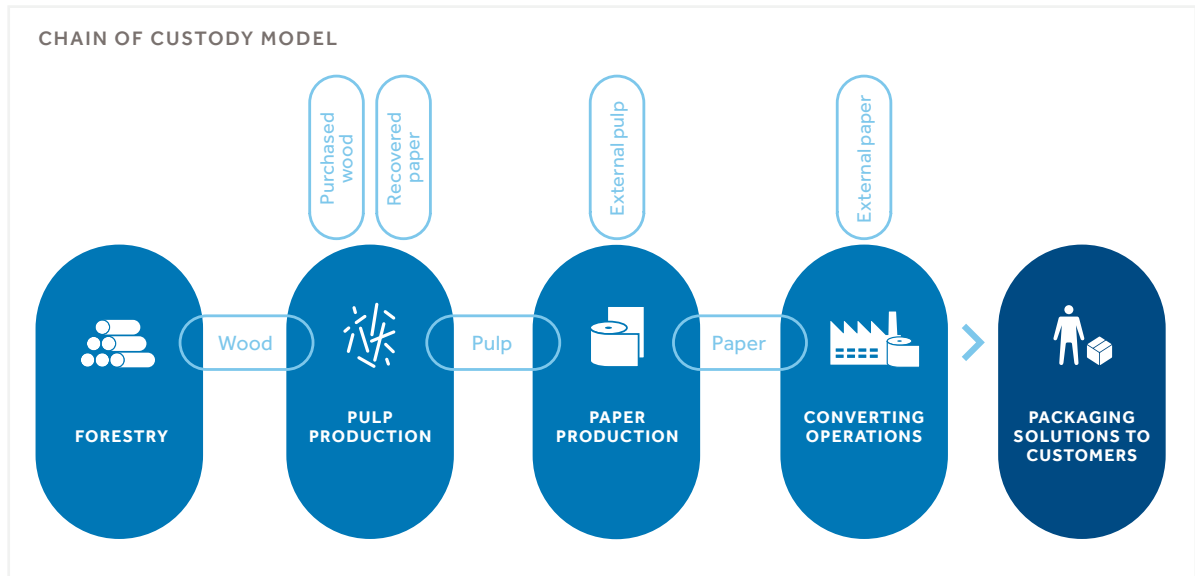
Ignacio Sánchez, Recycling Country Manager France and Spain, explains: 'We quickly started

implementation, whilst also producing promotional materials. We created a guide with recycling guidelines for entrepreneurs in the inner city, placed advertisements, printed flyers, and opened a direct service line. To raise awareness and gain support we also collaborated with schools and public offices, and installed sustainable ECO bins at more than 75 sites. Furthermore, by the end of 2017 our new depot was fully operational. Collection volumes have increased by more than 40 percent. Due to our dedication Malaga will be rewarded with its first 'Blue Bird' recycling award.'

Luis Medina-Montoya Hellgren, Malaga's general Manager of Sustainability and Environment, adds: 'Our partnership with Smurfit Kappa has helped us significantly to improve the tidiness and image of our historic city centre. Their expertise and actions received widespread recognition and appreciation. Smurfit Kappa went 'beyond the call of duty' to help us put in place different programmes and campaigns for local students. In building a new mind-set among young people regarding best separation and recycling practices. Smurfit Kappa has been a true strategic partner in our quest to improve our sustainability.'



FOREST (CONTINUED)



Chain of Custody certification

Transparency throughout the supply chain is vital to delivering our sustainability commitments. We are committed to maintaining robust monitoring and third-party auditing of our supply chain, ensuring that sourced fibre complies with our sustainability principles. While Smurfit Kappa does not source wood fibre from areas where deforestation risk is high, it is nevertheless an important issue affecting the reputation of the whole industry. The best practice to deliver our commitment is through forest certification, and related Chain of Custody certification.

At the end of 2017, the availability of certified fibres at our paper mills enabled us to produce 91% of our paper as Chain of Custody certified, according to FSC, PEFC or SFI. The remaining 9% are non-controversial fibres in accordance with FSC Controlled Wood standard, and managed through the mills' Chain of Custody certified risk-assessment systems.

The complete Smurfit Kappa paper and board mill system in Europe is Chain of Custody certified, under either one or both of the schemes we have supported in Europe (FSC and PEFC) since 2010. Since January 2015, all our paper mills in the Americas are certified by FSC and/or SFI standards. This means we have reached a 100% production capacity with Chain of

Custody certification for our paper and board production.

Effectively, all our conversion operations are Chain of Custody certified. With this complete coverage of both certified paper and board production, as well as conversion operations under Chain of Custody certification, we can reach the highest possible level of packaging sold as Chain of Custody certified. We reached our target to sell over 90% of our packaging products as Chain of Custody certified at the end of 2016. At the end of 2017, these deliveries were slightly lower at 89%. For the entire year 2017 these deliveries were at 88% up from an average 86% during the entire year 2016. However, the papers delivered were purchased through Chain of Custody management systems and met the non-controversial origin requirements.

To further improve our approach to sustainably sourced fibres, we launched an assessment and gap analysis to understand the effectiveness of our Chain of Custody and related risk management systems. This assessment is expected to be finalised during the second quarter of 2018 and covers both data management systems as well as the training and knowledge needs of our employees.

Forest and plantation management

The Americas

Smurfit Kappa owns and manages 103,000 hectares (ha) of forests and

plantations in Colombia and Venezuela, which provide almost all the virgin wood fibre we require in those countries. They are all managed by protection programmes based on the best sustainable development principles, promoting responsible use of natural resources alongside economic development and social inclusiveness. More about the social aspects of our forestry operations in Colombia can be read in the case story on the next page.

We also conform to comprehensive legal, technical and environmental regulations set by local governments and international bodies, subject to annual review.

Colombia

Our largest forest plantation area is in Colombia. In total we own or manage approximately 68,000 ha, including:

- 43,000 ha of commercial plantations, of which 5,000 ha are partnerships with private land owners
- 22,000 ha of protected natural forest
- Just under 3,100 ha for infrastructure.

In our commercial plantations 59% of the land is occupied by pine trees and 36% by eucalyptus trees, while 3% is in process of replanting and 2% is dedicated to research.

Our Colombian forest management programmes have been certified by FSC since 2003.

Venezuela

Our forests in Venezuela are situated in the three western states. Totalling some 35,000 ha of forest and plantations, they include:

- 21,000 ha of commercial plantations
- 13,000 ha of natural forest
- 1,000 ha for infrastructure.

In our commercial plantations, 64% of the land is planted with short fibre species (eucalyptus and gmelina) and 33% with long fibre pine. The remaining

3% is used for research and development, including silviculture, plantation management, and forest protection activities.

Our Venezuelan forests and plantations are managed to the highest standards. 31% of the plantations are certified to the FSC Forest Management standard, and 45% of the area is certified in compliance with FSC Controlled Wood standard.

Europe

In Europe we offer forest management services through our wood supply

companies in France and Spain. We also own some 600 hectares of forest in France and Spain. In both countries we follow local best practice for forest management, as certified by PEFC. Our wood-handling operations are Chain of Custody certified to FSC and PEFC standards, while our complete paper and board mill system has been certified since the end of 2010. More about our work towards lower environmental footprint at our forestry operations in France can be read in the case story on page 40.

CASE STORY



Diva's dream, a remarkable tribute to the power of scholarships

María Divanery Bolaños Muñoz is Research Technician for the Forestry Division of Smurfit Kappa Colombia, with a special story of personal and professional development. It illustrates her perseverance and talent, but also the importance of institutions that give less fortunate students a chance to build a better life and career.

María Divanery – Diva, for short – lived in a small rural village where she had to ride to the nearest school on horseback. She was a successful student, and was admitted into ITAF, the agricultural high school of the Smurfit Kappa Foundation, where she earned top grades and honours. Her accomplishments resulted in a university scholarship from the Smurfit Kappa Foundation. Diva decided to follow her dream: she had a keen interest in sustainable forest management, so she studied ecology at the Fundación Universitaria de Popayan.

It was hard for her to adjust to the fast life of the big city, but she kept her focus. To pay her way, she even managed a twenty-calf farm that her father arranged for her, as he could not afford her costs. Her hard work paid off and she received a new scholarship from the university.

Diva's thesis featured research for the Smurfit Kappa Forestry Division. She graduated with honours and started working for Smurfit Kappa as entomology assistant for the Phytopathology Protection Department. Later she was promoted to research technician in Entomology. Diva is now married, and the proud mother of six-year-old Karol. She recently earned her Master's degree, with a partial Smurfit Kappa scholarship. Although Diva did all the hard work herself, she is very grateful. 'My work is successful because of the support of Smurfit Kappa and its Foundation. I feel part of the family, with a very special relationship with the company and its people that made my dreams come true. If you really try your best, there are always people willing to support you. That is what I found out and value so much!'



María Divanery with her daughter

CASE STORY



Well-oiled harvest operation without oil

Mineral oils have traditionally lubricated the chainsaw bars used for wood-harvesting. However, in the spring of 2015, Arnaud Villette and his technical team at Smurfit Kappa Comptoir Du Pin in France, initiated a successful pilot study to replace mineral oil with a new bio-grease lubricant.

'With 2,000,000 tonnes of wood sold annually, Smurfit Kappa Comptoir du Pin is a major player in the forestry industry', says Technical, R&D and Maintenance Manager Arnaud Villette. 'We supply virgin fibres to the paper mill Smurfit Kappa Cellulose du Pin in Biganos, and also provide wood for energy-generation in the Dalkia biomass plant.'

'To produce logs, the chainsaw bars in our twelve harvesters need constant lubrication. Every day they require four to six litres of mineral oil per machine, and this quickly adds up. Looking for alternatives, we came across a

new Canadian bio-grease derived from plants. We are one of the early adopters in the hemiboreal and temperate conditions of this environmentally friendly product, and our test results show a wide array of advantages. The pilot studies were conducted in close co-operation with the French Forest Institute and other industry partners. We wanted to find out if this product, initially introduced in Nordic countries, would also function well in temperate conditions. The tests quickly resulted in a positive outcome.'

'Depending on the machine, we went from annually needing 1,050 kg of chainsaw mineral oil to 80 kg of bio-grease. By the end of 2017 we had already modified three of our harvesters to switch over to bio-grease. Not only do we now use a product that does not drain fossil fuels or cause pollution, we also need ten times less volume. As a result, the operator does not need to carry so much weight, and maintenance can be done weekly instead of daily. Furthermore, we have reduced transportation costs, improved our CO₂ footprint, diminished storage space requirements, and improved machine production conditions.'



Arnaud Villette

Conservation

Of the forest land owned by Smurfit Kappa in Colombia and Venezuela, 32% and 37% respectively is dedicated to protecting the sustainability of forests. This land helps maintain the rich biodiversity of the area, preserving watersheds, habitats and ecosystems.

To maintain the biodiversity and sustainability of forests in these areas, our guiding principles are to:

- Conserve natural forests under our stewardship, protecting and promoting species diversity, thereby sustaining ecosystems and contributing to the protection of water sources and habitats for flora and fauna
- Identify appropriate species and practices which increase plantation yields while protecting the environment
- Continuously and systematically develop research programmes to preserve and enhance soil productivity.

Plantation forestry efficiently produces sustainable fibres for paper production. In our Colombian and Venezuelan holdings this is done in carefully

selected areas, avoiding valuable ecosystems and protected forest areas.

Protecting and promoting biodiversity and natural habitats is an important part of our approach. To achieve this, we work with third-party institutions and through our own research centre in Colombia.

In Colombia, we have worked with three local universities – Cauca, Valle and Quindío – since 2009, studying the flora and fauna populations in and around our protected and planted forests. Examples of our work include:

- A partnership with the Biology Programme of the Natural Science School of Universidad del Valle, started in 2013, to study the 'diversity of birds, mammals and plants in the natural forests of the forestry nucleus in Sevilla'
- A literature review, carried out in 2014, which aimed to inform conservation planning by identifying areas of special biodiversity close to the company's plantations and natural forests in the Santa Rosa-Pereira core areas

- During the past four years, studies developed by Smurfit Kappa identified 1,222 species in our forests. This includes 651 trees, 494 birds, and 77 mammals, of which 41 species are to some extent endangered. It is clear to us that our plantations and the neighbouring protected natural forests form important wildlife corridors that contribute to species conservation in the Andean ecosystem, and therefore need careful management.

In addition to our work in biodiversity and nature protection, we closely cooperate with neighbouring communities. In these communities we aim to engage local people in our decision-making processes. This is especially important in Latin America, where indigenous people may have rights to the land, and local communities' livelihoods are often dependent on the forests. In 2017, we did not record any violations involving the rights of indigenous people.

In France we participated in a study of flora and fauna in Aquitaine during 2012-2014.

Forest

Scope

This strategic priority covers forest management, biodiversity, fibre sourcing and the communication of how we use sustainable fibres through certified Chains of Custody. Our reporting encompasses all of our own operations and products.

Commitment #1

All fibre produced and purchased is Chain of Custody certified under FSC, PEFC or SFI.

Timeframe:

Target to be reached by 2015.

Progress made: We reached the target in 2014 and continued to produce and purchase 99.7% of our fibres under fibre origin management systems that are Chain of Custody Certified in 2017. This is within our margin of 1% variation.

Commitment #2

Over 90% of our packaging is labelled as Chain of Custody certified under FSC, PEFC or SFI.

Timeframe:

Target to be reached by 2015.

Progress made: We fulfilled the commitment in 2016. At the end of 2017 we were at 89% due to some shortages in certified paper deliveries in 2017.

Our perspective

Independent third-party certification is the most reliable means to promote sustainable forest management and combat deforestation. We manage our forest holdings based on the following three sustainable development principles:

1. To promote economic growth
2. To use natural resources responsibly
3. To foster social citizenship initiatives wherever our plantations and forests are located.

We have certified all our plantations and forest holdings to FSC and/or PEFC where practical.

We certify our own Chains of Custody according to FSC and PEFC standards, covering both virgin and recycled fibres. We expect our suppliers to be able to deliver fibrous raw materials through complete FSC, PEFC or SFI certified Chains of Custody.

The recyclability of paper fibres is an important contributor to the sustainable nature of our products. Recovery of used paper is a global necessity and policies should stimulate the implementation of effective paper recovery systems. For Smurfit Kappa, communicating the sustainable nature of our products is important. This is why we have included the sourcing of recovered paper in the scope of our Chain of Custody certifications.

FSC, PEFC and SFI currently offer the most reliable standards that deliver credible, sustainable, fibrous raw materials.

Acting on climate change is one of the key environmental challenges of our times. At Smurfit Kappa we are stepping up our ambition with low-carbon, energy efficient production systems and increasing our use of renewables.

SUMMARY

We achieved our fossil CO₂ emission reduction target three years ahead of schedule.

The share of biofuels in the fuel mix of our mills reached 49.5%.

The use of our InnoTools reached new heights with over 11,000 uses per day in 2017.

We work on a three-pronged approach to reduce our CO₂ emissions: generating energy more efficiently, using less energy and increasing biofuels in our fuel mix.

As a significant user of energy in paper manufacture, improving our energy efficiency means both lower costs and reduced climate impact. While minimising the energy intensity of production processes is our main focus, our key challenge is to move, where economically viable, from fossil fuels to renewable sources, including biomass.

In paper manufacture, we combine resource efficiency – using wood and recovered fibres for making paper – with optimising residual wood products (sawdust, bark, black liquor and fibre containing sludge) in bioenergy production. This holistic approach makes the paper producing industry one of the most efficient users of both wood and energy. We only use wood biomass that has no higher value purpose and we re-use the by-products of bioenergy production, such as black liquor, as fuel in our own production processes.

Our efficient use of energy and resulting mitigation of Greenhouse Gas (GHG) emissions are important results for Smurfit Kappa, its stakeholders and society at large. The UN has developed two SDGs relating directly to the topics of energy use and climate change (UN SDG 7 which is applicable to us, and UN SDG 13 which is relevant to governments). We contribute to UN SDG 7: Affordable and clean energy, via our energy efficiency and renewables programmes, through the role our forests play in climate resilience, and by setting carbon reduction targets in line with the Paris Agreement on climate change.

Risks, challenges and opportunities

Climate change represents a global risk. More intense and extreme weather poses a danger not only to society, but also to business. The risks vary from operating sites and supply chains being physically damaged, to changing consumption patterns. Throughout its value chain, Smurfit Kappa faces risks and opportunities related to climate change.

Energy generation and GHG emissions

In the global drive to decrease fossil CO₂ emissions, we need a shift towards using renewable energy. This could be achieved by using biomass-based energy, but this may limit the availability of wood fibres for paper production. Cost is also a risk and a challenge. Increased cost of raw materials, possibly because of government incentives encouraging the use of biomass, could create a competitive disadvantage compared to less energy-intensive packaging materials.

Tackling climate change by encouraging the circular economy is an opportunity for our business. Smurfit Kappa constantly seeks ways to utilise its resources more efficiently (see case stories on pages 44 and 47), and welcomes synergies with stakeholders. One of the fields where this approach has advanced our efficiency is energy production, either from our side streams or by more efficient use of different forms of energy.

Smurfit Kappa supports efforts to curb climate change whilst maintaining a global level playing field for business. Following the Paris Agreement, the business sector needs governments to design stable, long-term policies ensuring a coherent and effective transition to a low-carbon society. These policies will create greater certainty for innovation and investment decisions.

In Europe, where we do 75% of our business, we are closely monitoring how the follow-up of the COP 21 has an effect on the EU ETS, and how the EU can avoid so-called 'carbon leakage' – the transfer of business operations to countries with less robust environmental targets. The EU approved its policy framework on climate change for 2020-2030, and for the paper industry it is essential that the region remains competitive and avoids costs that hinder global competitiveness.

Smurfit Kappa supports the EU initiative for an Energy Union. We believe it will enable European companies to deliver innovative, efficient products and technologies to tackle climate change, provided it is established correctly. With the bulk of our business based in Europe, we are affected by the continued relatively high energy costs in the region. The Energy Union aims, among other things, to address this issue.

Looking ahead, the Forest Fibre Industry 2050 Roadmap to a low-carbon bio-economy showed that a CO₂ reduction for our sector of 40%-60%, compared to 1990 levels, is possible based on available and emerging technologies. To reach a reduction of 80% by 2050, the development and availability of breakthrough technologies are necessary, and they must be available by 2030.

Improving carbon sequestration and efficiency

Forests play a significant role in strengthening resilience to climate-related hazards and natural disasters – this is mentioned as one of the key focus points of UN SDG 13.1. Sustainable forest management practices are the best way for the forest sector to support this target in an ecologically, socially and economically feasible manner. Smurfit Kappa participates in sustainable forest management through its own forests and plantations, and indirectly through demanding sustainably managed forests. More about our approach to sustainable forest management can be read in the previous chapter, Forest (pages 34-41).

Carbon and material efficiency is one of the key drivers in innovative packaging solutions for our customers. According to a study by Incpen, the largest carbon footprints occur when a product is not used, and when there are product residues inside packaging. This challenge is an opportunity to innovate. Smurfit Kappa uses annually collected sustainability data in innovation/design supporting tools and services, creating fact-based solutions for its customers. More on the use of these tools can be read on page 48.

CASE STORY



Closing loops with residual steam

In the past, Smurfit Kappa Roermond Papier in the Netherlands optimised the energy system for each paper machine. Now, an integrated steam-recycling system has been implemented which optimises energy usage throughout the mill. Two large paper machines deliver residual steam to the smaller PM2, through a smart combination of pipes and process control.

In the paper-making process, steam is brought into the drying cylinders to dry the paper web. At the other end, residual steam, also called flash steam, and condensate leave the cylinders. Previously, the residual steam of the two biggest paper machines was only partially reused. The energy of the excess steam was converted into condensate. PM2, the smallest machine, has no excess steam – after drying, only condensate leaves this machine. All condensate is sent back to the power plant and is turned back into steam.

Process engineer Wim Janssen devised a residual steam-recycling system. The volume of the residual steam leaving PM1 and PM3 is more than enough for the PM2. This results in less natural gas consumption at the steam boiler, reducing the mill's CO₂ emissions.

'It sounds simple, but it required in-depth analysis of our processes, and sophisticated process control, to realise a system that also took into account possible downtime of machines, fluctuations in steam production due to changes in paper grades, and the various steam groups within the machines', says Energy and Sustainability Manager Claire Schreurs.

'We believe that new ideas come from collaboration, creativity and having an open mind to view our processes from new angles', she continues. 'We are always looking to reduce costs and minimise our CO₂ emissions. As a result of closing our loops with residual steam we now annually save over

1.9 million m³ of natural gas and have reduced our CO₂ footprint by more than 1,600 tonnes per year. Our success was rewarded with a Sustainability Award in 2017, when we won the first prize in category Process Improvement during the Smurfit Kappa Innovation Event.'



Claire Schreurs

Progress in 2017

To tackle climate change we are moving to using less fossil-fuel, and producing less CO₂, promoting renewable sources where economically feasible, and closing loops to create circularity in our production process. We do this through a three-pronged approach:

- Investing in efficient energy generation
 - Investing in highly efficient Combined Heat and Power (CHP) systems. Our industrial need for electricity and heat means we are well-suited to scale up our use of CHP generated power.
 - Improving the efficiency of our current boiler houses, minimising heat losses.

- Investing in energy reduction programmes
 - Reducing our absolute use of energy through investments in research and new replacement technologies.
- Investing in fossil CO₂ reductions
 - Reducing carbon emissions through a shift to CO₂-friendlier fuels, such as biomass, natural gas, and the use of biogas produced by our water treatment plants.


Between 2005 and 2017, we achieved a 26.1% reduction of specific fossil CO₂ emissions for our paper and board mills – three years ahead of our original target of 25% by 2020. Having achieved the target means that we are now investigating our next emission-reduction goals.

Progress 2005-2017 (paper and board mills)



REDUCTION OF RELATIVE FOSSIL CO₂ EMISSIONS


26%



IMPROVED ENERGY EFFICIENCY

13%

at least 1% year on year

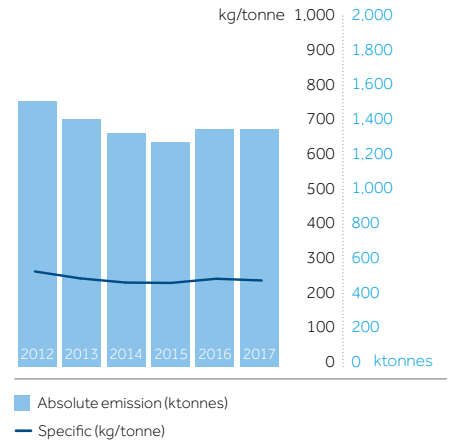


BIOFUELS IN OUR FUEL MIX

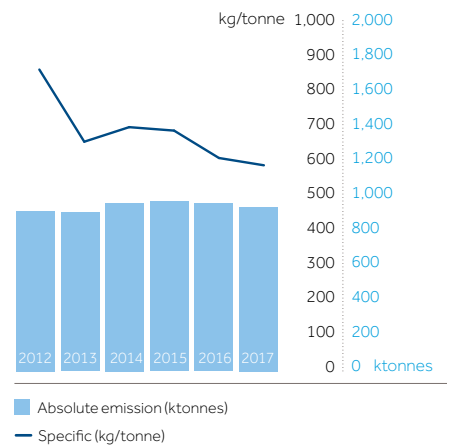
49.5%

from 37.3% in 2005

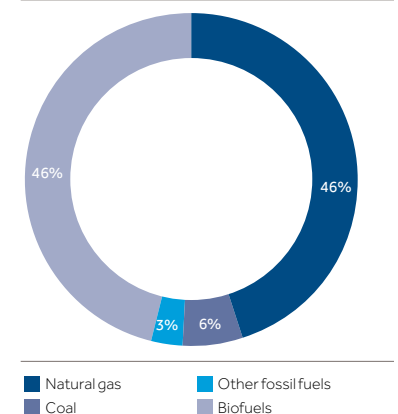
DIRECT FOSSIL (SCOPE 1) CO₂ EMISSION
European mills



DIRECT FOSSIL (SCOPE 1) CO₂ EMISSION
The Americas mills



DIRECT FUEL CONSUMPTION
All operations



CLIMATE CHANGE (CONTINUED)

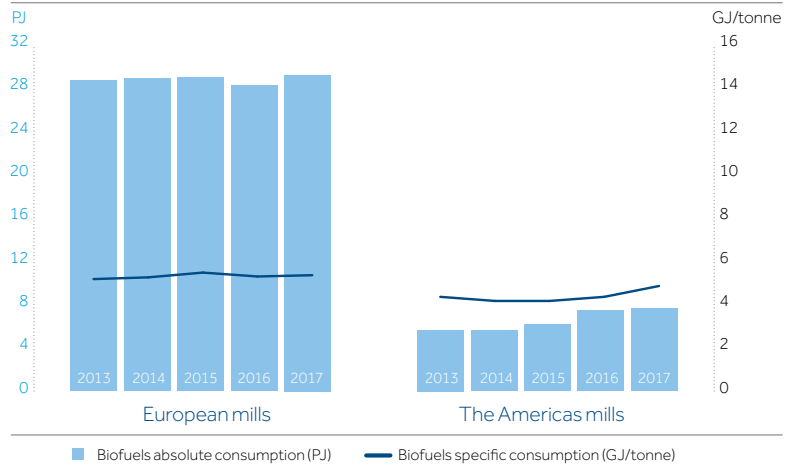
Energy Efficiency

While our climate change target is to reduce specific fossil CO₂ emissions, it cannot be achieved without progress in energy efficiency. During the twelve years from baseline year 2005 to reporting year 2017, we have improved the energy efficiency of our paper mills by 13%. This has been achieved by combining investments in more efficient energy generation with investment in technologies that reduce the use of energy in our processes.

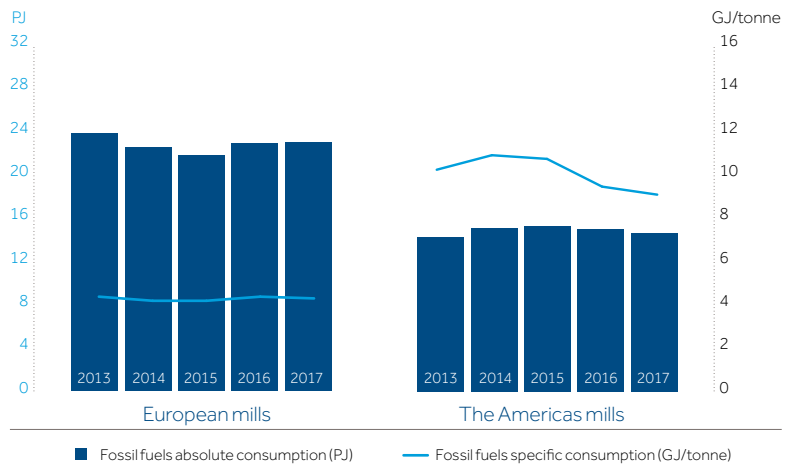
The key events during 2017, resulting in the 26.1% reduction of specific fossil CO₂ emissions in comparison to 2005, were:

- In Sanguesa in 2016, the previous recycled containerboard equipment was replaced by a machine producing MG paper. Optimising this machine after startup resulted in a 16% decrease in fossil CO₂ emissions per tonne of paper in 2017 compared to 2016.
- In our Zülpich mill, the size press in the PM6 was replaced by a film press in the first quarter of 2017. With this equipment, less steam is needed to dry the paper, resulting in a steam reduction of 5.7% and a CO₂ emission decrease of 3.5% per tonne of paper.
- In Roermond the PM1 was rebuilt in 2016, to make a state of the art medium/light weight paper machine, which led to increased productivity and higher energy efficiency. CO₂ emissions have been decreased by 7.6% per tonne of paper.

BIOFUELS



FOSSIL FUELS



CASE STORY



More heat, more speed, and less energy need

Smurfit Kappa Rheinwelle has a long history of innovative projects that improve operations while reducing the need for natural resources. The corrugated plant in the German city of Kreuzau previously implemented a successful heat-recovery system, and has now managed to expand its use of compressor heat for ink drying.

'The heat is on', smiles Markus Becker. The Operations Manager of Smurfit Kappa Rheinwelle and his team wanted to find a sustainable solution that optimised the printing process. 'Inspired by the drive to improve quality, and by rising energy costs, we investigated ways to expand our use of waste heat. Drying ink with heat helps prevent colour smearing and makes it possible to increase printing speeds. The obvious solution would be to invest a lot of money in special heating equipment and, as a result, increase our consumption of fossil fuels. That was certainly not the way we wanted to go.'

A previously implemented process managed to reuse up to 75% of lost compressor heat. Around 80kWh of recycled heat energy from the compressor is used for heating the 1,000m² office building of Smurfit Kappa Rheinwelle. Further compressor heat is used for employee showers, via a heat exchanger. During summer, the plant uses the energy to increase the temperature of the steam-boiler water system from 15°C to 75°C. This set-up saves the plant 528,000 kWh energy, €21,000 costs, and 153 tonnes of CO₂ per year.

'Our new waste heat ink drying setup enables us to save an extra 15 tonnes of CO₂', says Markus Becker. 'It also results in improved print quality and speed, with 65% annual energy savings. To make sure the print quality is crisp and clear, the ideal hot air drying temperature is around 90°C. The heat that we recover is up to 70°C, so we just give it a small boost to reach the ideal ink drying temperature. We made sure to document the innovation in detail so other Smurfit Kappa plants can benefit from our findings.'



Markus Becker

CLIMATE CHANGE (CONTINUED)

- Mengibar changed their recycled stock preparation into the standard method developed by Smurfit Kappa, which reduces energy usage by using less equipment at optimal levels. This resulted in an electricity usage reduction of 10% per tonne of paper and a CO₂ decrease of 3.8%.
- Los Reyes began using a new paper machine with a capacity of 100,000 tonnes and a new boiler house in September, after decommissioning an existing machine. Due to the higher energy efficiency of the machine and boiler house, CO₂ emissions have decreased by 3.5% per tonne of paper.
- In our Barbosa mill, the paper machine was upgraded from 73,000 to 112,000 tonnes in 2017. This machine's higher efficiency, due to the installation of a shoe press and natural-gas CHP (in 2016) energy generation, led to a decrease of 3.8% in CO₂ emissions.

Renewable energy

To become less dependent on fossil fuels, a shift to renewable, CO₂-friendly fuels is required. For Smurfit Kappa this means creating circularity in our energy production by fully utilising, where possible, any by-products that have a positive energy value. This is in addition to traditional bioenergy usage at pulp and paper mills – burning black liquor and utilising biogas produced during anaerobic water treatment as fuel.

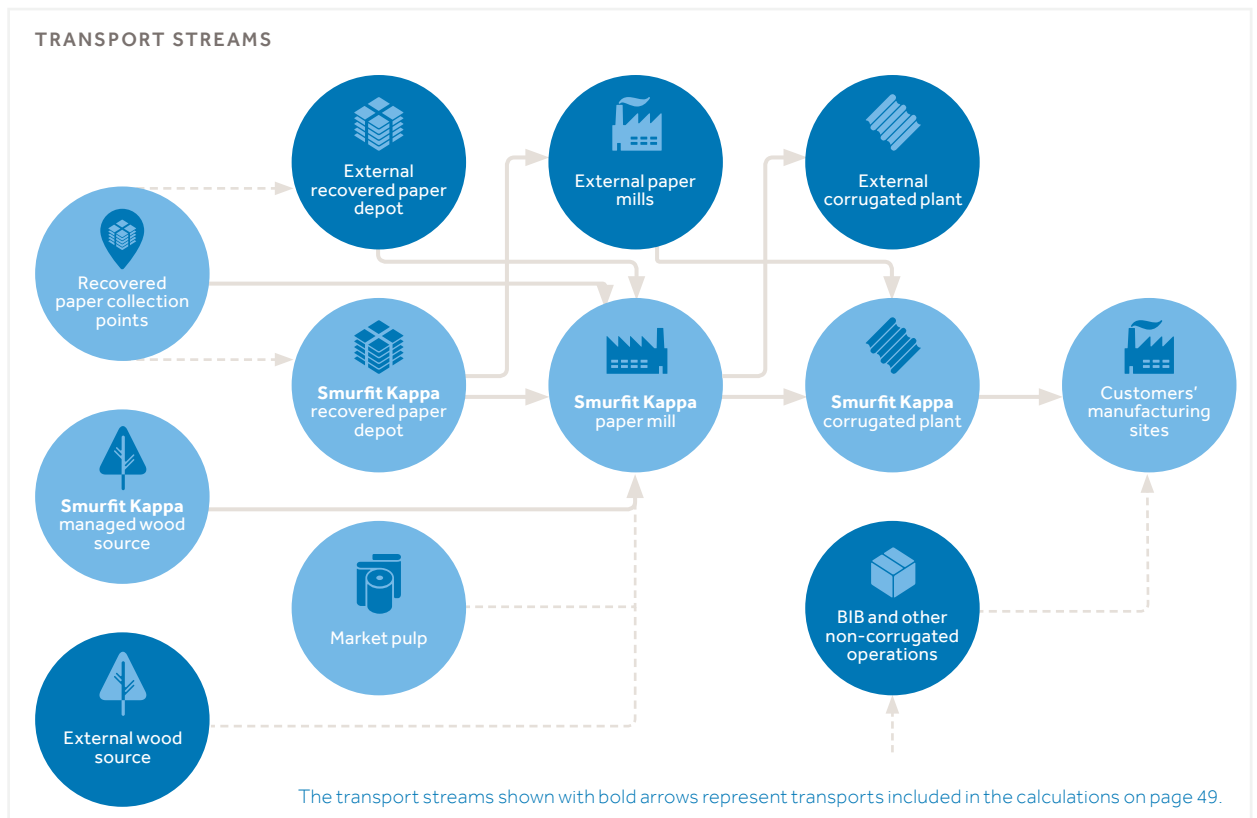
To be able to reach our relative CO₂ target, we have a programme to move from fossil fuels to renewable sources. Since 2005 we have shifted to biofuels where possible, and our paper mills have reached a fuel mix of 49.5% biofuels, compared to 37.3% in 2005.

Working with our customers

Using a suite of tools, including our Paper To Box and Pack Expert, we continue to work with customers to determine the carbon footprint of their packaging. These tools give access to CO₂ emissions data and other information to optimise packaging solutions.

On average in 2017, Paper To Box was used nearly 10,000 times per day and Pack Expert almost 1,200 times per day. The application of Paper To Box continued to grow from 2016, due to increased customer interest in using our insights based on measured data and research. Another contributing factor was the expanding use of the tools in the Americas. As we have achieved a 26% reduction of our specific CO₂ emissions, these tools help capture this data for our customers' own calculations and benefit.

Our InnoTools suite of design software features options for customers, not only to determine the carbon footprint for each packaging unit, but also to track its development over the years.



Emissions from transport

The vast majority of our CO₂ emissions stem from manufacturing activities at our production locations. Of the remaining CO₂ emissions, those caused by the transport of raw, intermediate, and final products are also significant.

We currently report our European transport emissions, which represent 75% of our business, and have expanded the scope of this for 2017. The transport, and scope of our reporting, are described in the diagram on the previous page. In the future, we aim to also include transport emissions from our American operations.

In the reported CO₂ emissions we include the transport of wood, recovered paper and market pulp used in our mills. We also take into account CO₂ emissions from the transport of intermediate products (for example,

reels of paper, corrugated board sheets, and solid board sheets) from the paper mills to the converting plants. In 2017, these emissions were the equivalent of 270,000 tonnes of CO₂. We also report CO₂ emissions of transport of finished products to our customers. These have all been road transport, and represent CO₂ emissions of 172,00 tonnes.

The total of these transport related emissions in 2017 represented 442,000 tonnes of CO₂ equivalent.

While the calculation of CO₂ emissions for the transport of paper reels between our own mills and the converting plants is accurate (representing 75% of the total volume), we believe we have made a good estimate of emissions for the transport of the remaining reels of paper supplied to our corrugated plants by third parties.

Transportation for the above activities represents approximately 9.4 billion

tonne-kilometres. 89% of tonne-kilometre are carried out by road transport, 6% by sea and 4% carried out by train.

We have adopted a calculation method in which our operating companies are reporting the transport data on an annual basis. The transport data is aggregated in a central data base where emission calculation is applied based on the CO₂ emission factors extracted from the European Reference Life Cycle Database version II (ELCD).

We are increasing our focus on transport environmental impacts in many ways. During 2017, several pilot cases were extended, focussed on reducing road traffic and reducing CO₂ emissions. This has had a positive impact on the communities where we operate, reducing noise and increasing safety on the road. Read also the case story on page 24.

Climate change

Scope

This priority area covers energy use, climate change and greenhouse gas emissions. Our reporting covers our operations from gate to gate.

All CO₂ emissions from our paper and board mills (directly, or indirectly used through buying secondary energy) relate to the production of paper. Only paper and board production is taken into account given its relative fuel use (90%) compared to our converting operations and its subsequent contribution to fossil fuel CO₂ emissions. For scope 3 emissions, we currently cover transport in Europe only.

Commitment #1

A 25% reduction in relative total fossil CO₂ emissions (compared to 2005) (scope 1 and 2) in our mill system by 2020.

Timeframe:

Target to be reached by 2020.

Progress made: We reached the target at the end of 2017 with 26.1%

reduction, three years ahead of schedule.

Commitment #2

Collaborate with customers to calculate the carbon footprint of the packaging life cycle.

Timeframe: Continuous.

Progress made: We have developed a suite of tools that help to determine the carbon footprint of our customers' packaging (Paper To Box and Pack Expert). In 2017 these tools were used on average some 11,000 times a day.

Our perspective

Climate change drives change in society, and in our case it:

- Stimulates product design improvements to lower our customers' carbon footprints
- Encourages production efficiency
- Informs how we invest for the long term.

Our stakeholders, notably customers and investors, expect us to approach climate change responsibly and provide detailed progress reports.

Our use of energy, carbon footprint and GHG emissions are an integral part of Smurfit Kappa's business. We need to find ways to fundamentally re-engineer our operations to be less fossil-fuel intensive. In our case this means reducing energy use, as well as increasing energy efficiency and the use of renewable sources where feasible.

By focusing our targets on reducing our carbon footprint we also steer energy savings in the direction of lower greenhouse gas emissions.

WATER

Like air, water is essential for people and businesses like Smurfit Kappa in the manufacture of paper. We do everything we can to ensure the responsible stewardship of this precious resource.

SUMMARY

We achieved our COD reduction target three years ahead of schedule.

We became signatories of the UN Global Compact CEO Water Mandate.

Six more paper mills were assessed against risks related to water.

From 2005 until 2017 we have invested €62 million in best practice water treatment.

Clean and accessible water cannot be taken for granted – it is essential to life and coming under increasing pressure globally. The UN has identified two Sustainable Development Goals, UN SDG 6: Clean Water and Sanitation and UN SDG 14: Life below Water, which highlight water related areas of concern and action. Freshwater is unevenly distributed globally, and its availability can therefore pose local challenges, sometimes with global impacts. Currently there is sufficient fresh water on the planet to serve society's needs, but we must use it responsibly, safeguard our watersheds and build the necessary infrastructure for efficient distribution.

Only 13% of our paper and board production takes place in areas of water scarcity, which represents 5% of our water intake. Nevertheless, using water sustainably is a central aim, and a key concern for our stakeholders. For instance, if our customers are businesses for which water is an identified concern, they expect us to demonstrate good water management practices too. Recently we have enhanced our commitment to water stewardship by becoming a signatory of the CEO Water Mandate.

We use water to process raw materials and for cooling purposes, and its quality is important to our business. Our 36 paper and board mills used 117 million m³ of water in 2017, of which 106 million m³ was discharged in good condition. As these figures show, we are more a processor of water than a consumer. Apart from returning over 90% of the water we take in, we also reuse water several times at various production stages. It is then processed in our water treatment facilities and returned to public water bodies. Of the water discharged, 76 million m³ was used for processing purposes and 30 million m³ for cooling. Since 2014 we are carrying out water risk-assessments across all our paper mills.

Forests are important for maintaining nature's water cycles, and their role features strongly in our sustainable forest management approach. For example, preserving water bodies linked to commercial forests is an indicator of sustainable forest management, while allocating protected forest land as we do in Colombia and Venezuela further supports natural water ecosystems (read more about our commitment to sustainable forest management in the chapter Forest, pages 34-41).

CASE STORY



Sustainable savings from press and pinch innovations

Looking at an existing process from a new angle often leads to improvements and innovations, but how do we inspire people to develop these new perspectives? Paper Production Manager Hubert Mittmannsgruber of Smurfit Kappa Nettingsdorf in Austria, and Liliana Noreña, Process Engineer Research, Development and Innovation at the Smurfit Kappa Cali Mill in Colombia, are convinced multidisciplinary teamwork has led to recent successes in sustainable production solutions at their paper mills.

Hubert Mittmannsgruber of Smurfit Kappa Nettingsdorf and his project team are enthusiastic about their recent press-nip dewatering innovation. 'Energy and water are important issues for any paper manufacturer. During 2013-2015, we optimised production to reduce energy and water usage. Nowadays we produce top quality paper without the need for several water ring vacuum pumps, and annually save 8 GWh energy and 22,000 tonnes of steam. The steam savings alone account for a reduction of 1,7 million Nm³ of natural gas. Soon other synergies emerged, such as savings in fresh water consumption, discontinuation of chemical felt cleaning, reduced machine downtime, and improvement of the suction roll lifetime. Every part of our production process is fair game for innovation, even parts that we consider indispensable. This has been a true team effort, combining the expertise of various specialists who were willing to listen, and take on different perspectives.'

Liliana Noreña has overseen similar innovations. 'In Colombia, we formed a team of local engineers from our Cali mill, Smurfit Kappa specialists from the Group's paper production technology team, and experts from outside the company,' she says. 'More than twenty engineers from different areas of our mill division participated to exchange expertise, and inspire each other to save water and energy. An energy efficiency study was the first step. Then we developed a model for our plant, through which we were able to calculate our so-called "pinch point". The pinch point defines the real heating needs of the paper mill. As a result we identified 29 projects, which will require investments of \$8 million. The outcome will be a decrease of 36% in water consumption, a 30% reduction of our CO₂ footprint, and annual savings of \$6 million. Our multidisciplinary approach will likely be utilised in other Smurfit Kappa plants as well.'



Hubert Mittmannsgruber, Andreas Sturmberger, Christoph Feichtinger



Victor Ojeda, Liliana Norena, Alfredo Marin

WATER (CONTINUED)

Risks, challenges and opportunities

Incorrect use or treatment of water poses risks to the ecosystems and environments in which we operate. Water returned to the environment by an industry can create a nutrition imbalance, pollute the water, or change its temperature. A significant decrease in the availability of water, or an increase in its cost, will affect our ability to operate.

UN SDG 6.3 aims to improve water quality by reducing pollution, eliminating dumping, and minimising release of hazardous materials, halving the proportion of untreated waste water and substantially increasing recycling and safe reuse globally. In the paper industry, Chemical Oxygen Demand (COD) of water is the best measure of the polluting factor of water returned to nature. Of our 36 paper mills, two operate in a closed loop system and six release their water to a municipal water treatment plant. All others process water onsite. We have also set ourselves a clear target of a one-third reduction in COD by 2020, including those mills that directly discharge to surface water. We achieved this target in 2017, three years ahead of schedule.

Regulatory requirements and continued scrutiny mean that to mitigate any impact on biodiversity, the quality and safety of treated water returned to public water bodies must always remain uncompromisingly high. To achieve this, we have invested €62 million in the development of our water treatment plants since 2005.

The challenge for Smurfit Kappa is to maintain and demonstrate our responsible approach to water use, as a low consumer of water. We support initiatives from the paper industry to improve water efficiency and avoidance of wasted water, even when operating in areas with no water scarcity. Indeed, customers whose production processes are water intensive have demonstrated an interest in sharing knowledge with Smurfit Kappa on water management practices. Our mill-specific water risk assessments are designed to increase understanding of

our impact, risks, and solutions, as well as opportunities.

Progress in 2017

Understanding our relationship with water is crucial. It consists of our impact on the water we use, as well as understanding the environment in which we operate. For us, there are two material approaches to water: improving the quality of water we discharge (for which we have set a relative target), and understanding the risks associated with water availability and use. Focusing our actions in these areas will enable us to positively change the way we operate, and influence our working environment as well. More of our efforts to manage our water use better can be read in case stories on pages 51,53 and 56.

In light of the above, we continually implement best practice in our mills' water treatment. In 2017, over 90% of paper and board was produced at mills where best practice water treatment systems are in place. This involves treating process water to decrease the organic charge of effluent through anaerobic and/or aerobic treatments, before returning it to public water bodies.

In 2017, we continued our water risk-assessment programme, aiming to investigate the impact we have on surrounding regions, and the global water risks for our mills. During 2017 and early 2018, we carried out in-depth assessments at our paper mills in Barranquilla (Colombia), Coronel Suarez (Argentina), Forney (USA), Monterrey (Mexico), Piteå (Sweden), and Wrexen (Germany). All confirmed that our mills' use of water has no material impact on the availability of water to neighbouring regions. We expect to be able to assess five to six mills each calendar year.

These water risk-assessments are built on management of three risk categories – physical risk, including local water scarcity, and mill equipment, regulatory risk, and reputational risk. We execute each assessment as a supporting desk study and an audit of each risk category on site, including interviews with key stakeholders. In

2017 the mills have included these assessments in their ISO 14001:2015 certification risk-assessments.

COD and water usage

Between 2005 and 2017, the COD content of processed water returned to the environment has decreased by 37.5% relative to production, in comparison to 31.9% in 2016. This represents an improvement of 8%, year on year. These figures do not include the three Brazilian paper mills acquired in December 2015. The COD measurement of these sites was not at Smurfit Kappa standard in 2005, and cannot therefore be included before more in-depth investigation.

In 2017, water intake of all our operations decreased to 119 Mm³, from 121 Mm³ in 2016, including the Brazilian mills. For 2017, compared to 2016, the average water intake by our paper and board mills decreased to 16.5 m³ per tonne of paper produced from 17.3 m³. This represents a 4.6% improvement, year on year.

Overall, our paper mills work with a process that recycles water at a high rate. At the headbox of a paper machine the fibre constitutes around 1% of the mix. In the beginning of the process, 75-125 m³ water is used per tonne of paper. We discharge 3-7 m³ water – about the same amount as the intake per tonne of paper. We recycle 10-40 times the amount of water needed in the paper making process, which we first reuse at the paper machine and then return a proportion back to our process after treatment in our water treatment plants. Our Zülpich (Germany) and Bento (Brazil) mills operate closed water loop systems.

CASE STORY



A smart water solution that sticks

Water is an important and valuable resource in the production of corrugated packaging. Smurfit Kappa Canovelles in Spain is no exception to that, but what is exceptional is its innovative approach to re-use glue water from the corrugator in the glue kitchen. This creates significant savings in water consumption as well as a steep reduction in the use of additives.

The Smurfit Kappa Canovelles plant is located just over 35 kilometres north of Barcelona. The Spanish corrugated packaging factory specialises in the production of trays, standard boxes, wraparound boxes, and shelf-ready packaging in high quality printing up to six colours. Most of the packaging is produced for large, pan-European, industrial clients. Production Manager Fermín Garces led the team that implemented the innovation centred around the re-use of glue water. He explains: 'Our team set out to reduce the organic load of our waste water. We use starch to glue the layers of paper together, but while cleaning our corrugator during the night the remaining starch and water become waste.'

'The new cleaning-water routing required modified piping, and we had to find the right balance in our glue kitchen to be able to produce a constant quality', Fermín Garces continues. 'We invested around €15,000 in the new set-up and our efforts quickly paid off to benefit both the environment and our operations. Re-routing the cleaning water from corrugator to

glue kitchen reduced our water usage by 16%. We are happy to conclude that the changes we implemented had a positive outcome and that the quality of our waste water improved as is shown by the decrease in our Chemical Oxygen Demand (COD)

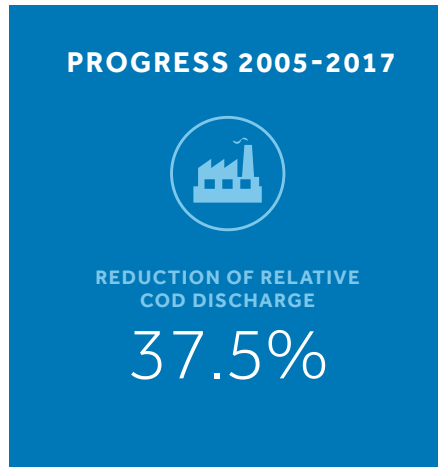
measurements by 12% in 2017 compared with 2016, and we expect a future consolidated improvement of 20%.'



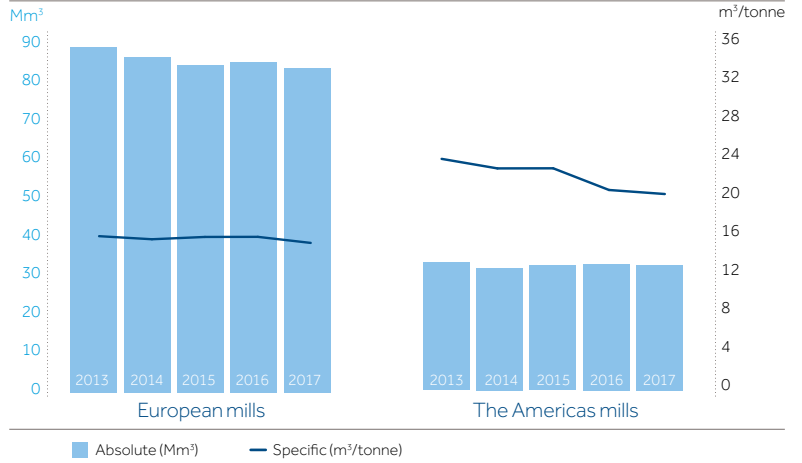
Eduard Pascal and Fermin Garces

WATER (CONTINUED)

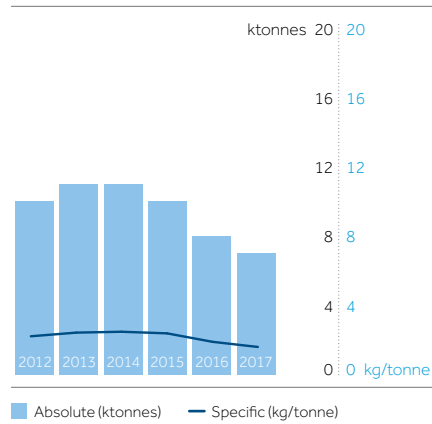
The infographic below illustrates the key water indicators per region for the five year period 2013-2017.



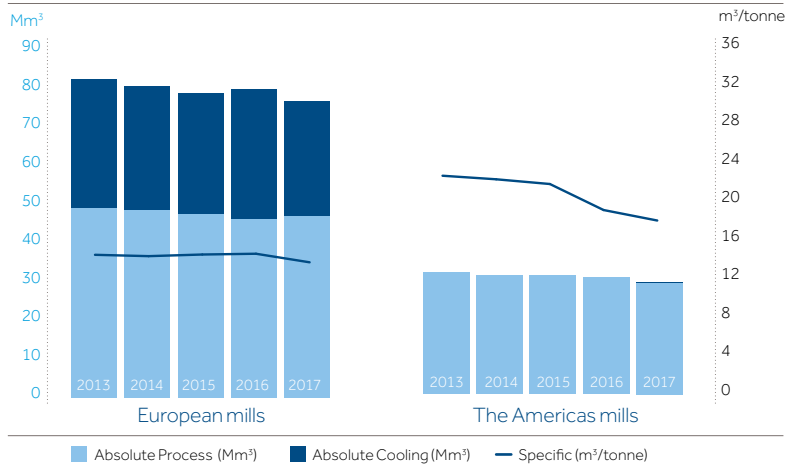
WATER INTAKE



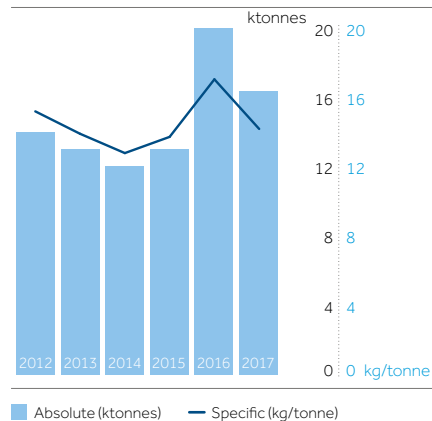
PROCESS WATER DISCHARGES EUROPEAN MILLS:* COD



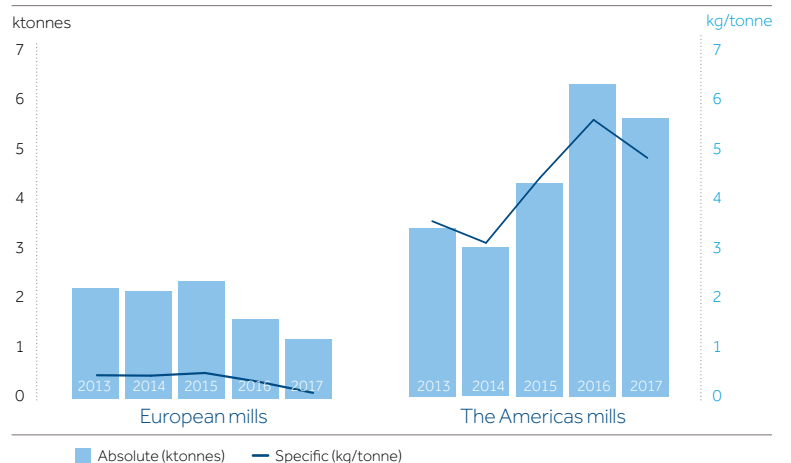
WATER RELEASED



PROCESS WATER DISCHARGES THE AMERICAS MILLS:* COD

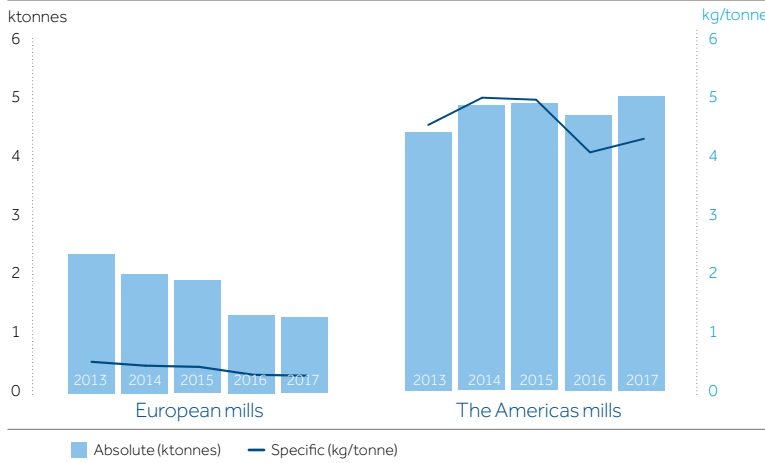


PROCESS WATER DISCHARGES* BOD

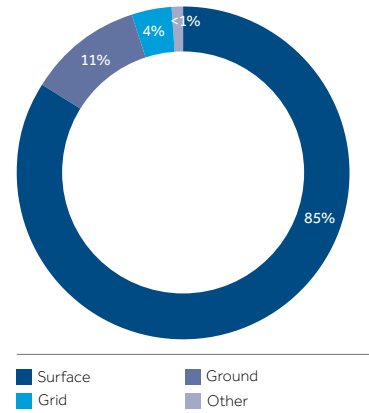


* figures of mills releasing to environment (mills that released water to external water treatment plants are not reported)

PROCESS WATER DISCHARGES* TSS



WATER SOURCES ALL OPERATIONS



Water

Scope

This priority area covers the water intake and discharge to and from our processes. The data covers all Smurfit Kappa paper mills discharging water produced through the process directly to water bodies. Mills that have their process water treated externally are not included. Only paper production is taken into account because this contributes to 95% of all organic discharges and 98% of total water intake.

Our target is set against Chemical Oxygen Demand (COD) in water which is an indicator of the organic content in water.

Commitment #1

A reduction of COD in water returned to the environment from our mills by one-third compared to 2005 levels. This target covers only sites that release water directly to the environment. Six mills out of 36 have either a closed loop system with no water discharge or their water is treated in an external, municipality managed, water treatment plant.

Timeframe:

Target to be reached by 2020.

Progress made:

In 2017, we achieved 37.5% of COD reduction per tonne of paper produced compared to 2005, for the mills discharging directly to surface. This means that we have achieved our target three years ahead of schedule.

Commitment #2

Perform environmental impact assessments of the water use of our sites (where relevant) and develop water usage measurements.

Timeframe:

Target to be reached by 2017.

Progress made:

Overall environmental impact assessment of the water use at our sites was made during 2014. As a result, a tool to assess mill specific risk related to water was created. 15 mills have been assessed using this since 2014. We expect to assess five to six mills per year completing the programme by 2020 and the assessment programme on high water stress areas was completed in early 2017.

Our perspective

Water lies at the core of sustainable development, and ensuring the global availability and sustainable management of water and sanitation for all could transform the UN 2030 Agenda. Sustainable water management is also of utmost importance for Smurfit Kappa because to succeed, our business needs ample water availability at low cost. As we rely on natural raw materials, water is vital for the ecosystems and environments where we operate.

90% of the water we use is returned to nature in good condition, and the rest is evaporated during the process or bound to the product. We focus on further improving the quality of water we discharge and understanding the risks associated with water availability and use in the areas where we operate. This strategy positions us to deliver positive change to the environment and our processes.

To make an ongoing difference, we will continue to invest in water treatment facilities that improve the quality of water released to nature, and make water impact assessments of our paper and board mills. Findings will guide actions to reduce the impact our operations have on the water balance in their region.

CASE STORY



Cleaner water at Culiacan Corrugated

Smurfit Kappa's 'Sustainability Awards 2017' featured many innovative projects from around the world, including the 'Cleaner Water' project initiated by the Mexican Smurfit Kappa plant of Culiacan Corrugated. For this plant, water discharges are important, as waste water is discharged directly into the surrounding environment.

To care for the community and environment, Culiacan Corrugated must make sure all discharges are within safe limits. Water quality is regularly reported to the federal environmental authorities, to check for compliance. Through collaboration between the internal laboratory, waste water treatment and external laboratories, this plant in Mexico has been able to materially improve its water discharge. Since 2014, this has led to an 80% improvement in the plant's COD discharge, 90% reduction in biochemical oxygen demand, and 30% reduction in total suspended solids.

Ongoing reduction of water-discharge pollutants continues to be a concern for administrative and operational staff, and involves people from departments such as maintenance, production, external consultants and, of course, plant management. Results so far have been achieved through periodic maintenance of the water treatment plant, immediate replacement of damaged equipment, and correct operation and permanent monitoring of the water quality parameters. The result of this constant effort is a healthy and safe operation, which prevents pollution of the surroundings through water effluent discharged in good condition.

Their approach also plans for unexpected circumstances. When a significant deviation that might result in non-compliance is detected, corrective action is implemented immediately, supervised by the plant manager. Through these actions, the Smurfit Kappa Culiacan Corrugated plant ensures it complies with existing rules, laws and regulations, and is well-prepared to face future challenges in preserving an environment that is vital to the local community.



Jesus Alberto
Rodriguez Cebreros

WASTE

Smurfit Kappa's aim is to contribute to a world without waste, supporting the concept of circularity. Our commitment to resource efficiency and keeping materials in the loop (and out of landfill) make us key contributors to UN SDG 12: Responsible consumption and production.

SUMMARY

We have reduced waste sent to landfill per produced tonne of paper by 13.3% since 2013.

Our fit-for-purpose packaging solutions help reduce waste in our customers' value chains.

We continually look for synergies with our neighbours to improve material efficiency.

74% of our raw material consists of recycled fibres.

Avoiding waste is an important issue for our stakeholders, particularly our customers, many of whom have stated objectives to reduce waste. Their concern is that too much food and packaging end up in landfill. Our packaging solutions help prevent this waste by protecting food and products from damage, or becoming spoiled. After use, our products are recyclable. Paper packaging has the highest recycling rate of all packaging materials supported by improved and accessible recycling systems for customers and consumers.

In addition to protecting its contents, our packaging reduces its own impact by being right-weighted. This means using the exact amount of material necessary to achieve the required result, and no more.

It may seem paradoxical that while the products we produce are recyclable, we generate over 100 kg of non-hazardous waste per tonne of paper and board, of which approximately 61% is sent to landfill. There is a simple explanation. The recovered paper bales from which we produce our recycled paper are sent to us by recycling companies. Often they contain unwanted plastic, metals, glass, textiles, sand, and other non-usable materials that have not been separated from the recovered paper stream before being delivered to our mills.

On average it takes 1,070 kg of recovered paper to produce one tonne of paper and board. To reuse as much of the recovered materials as possible, we separate unwanted elements using water, some of which is retained by the non-usable materials and can contribute as much as 50% to the waste we 'generate'.

To minimise the materials we send to landfill, we reuse our own waste as far as economically and technically possible. Currently, approximately 37% of this waste is recovered, and our objective is to increase this figure. In the short term, our target is to reduce the waste sent to landfill from our paper and board mills by 30% per tonne by 2020, compared to 2013.

Risks, challenges and opportunities

In its Agenda for Sustainable Development, the UN commits to fundamental changes in the way societies produce and consume goods and services. It demands actions from all parties in society, including companies. UN SDG 12, on ensuring sustainable consumption and production patterns, sets the framework for how the world needs to react to the issue of overconsumption of materials and generation of waste and hazardous materials. Specific targets related to the impact from cities has been addressed in UN SDG 11.6, on waste management. The EU drives decreased waste generation and change in consumption patterns through its Circular Economy Package.

CASE STORY



It all comes together with separate waste streams

Smith, Stone and Knight (SSK) in the UK is a historic Smurfit Kappa paper mill which has been in operation for over 150 years. Nevertheless, the people of SSK are keen to continuously improve, especially when it comes to their core business: recycling. They achieved a 60% reduction in waste sent to landfill, using analysis, collaboration and innovation.

Kate Fiddy, Manufacturing Development Manager, shares the key figures that triggered the recent reclamation achievements: 'Smurfit Kappa SSK generates around 23,000 tonnes of process waste annually; mainly unwanted materials delivered mixed with our 100% recycled fibre raw material, including plastics, polystyrene, staples and tape. It also contains fibre that doesn't fully disperse during the pulping process, and so gets rejected by screening and cleaning equipment. All this rejected material has traditionally been sent to landfill, which has a negative environmental impact and has been subject to escalating costs of disposal – partly due to the government's landfill tax. All

this encouraged us to look critically at our waste, and we approached local waste-management company Premier Waste to share their expertise and help us improve.'

After thorough analysis, Smurfit Kappa SSK commissioned Premier Waste to create a process plant for the largest reject stream, separating the materials and enabling them to be re-used, recycled, or converted into fuel. Premier Waste devised a compact processing plant, which mechanically loads reject material onto a conveyor. Ferrous metals are removed by over-band magnets, before being mechanically broken

down and mixed to give a more consistent feed to the next processes. Water is added ahead of two friction washers, which separate plastics from fibre. These are used by Premier Waste to make a solid recoverable fuel product. The remaining fibre is compacted to remove water for re-use in the process, then returned for papermaking.

Kate Fiddy continues: 'As a result of this novel separation process, we have diverted almost 10,000 tonnes per year from landfill, almost 50% of which is returned to the mill for recycling. This has been a large step towards our ultimate goal of becoming landfill free.'



Kate Fiddy

Focusing on material efficiency and circular economy creates opportunities for the renewable material and packaging sectors. Smurfit Kappa focuses on three areas where we can help our stakeholders to reduce waste in their value chains. Our innovation and design is based on fit-for-purpose packaging where we combine data and market information to find the most suitable solutions for our customers. We also seek to create single-material solutions in which packaging is made only from corrugated board and paper, making packaging recycling easy to the consumer and creating efficiencies in packaging lines. Our recovered paper operations collaborate with retailers, consumer goods companies and cities to collect valuable recovered paper for return to our paper mills and further conversion to recycled papers. This collaboration benefits all parties and creates transparency.

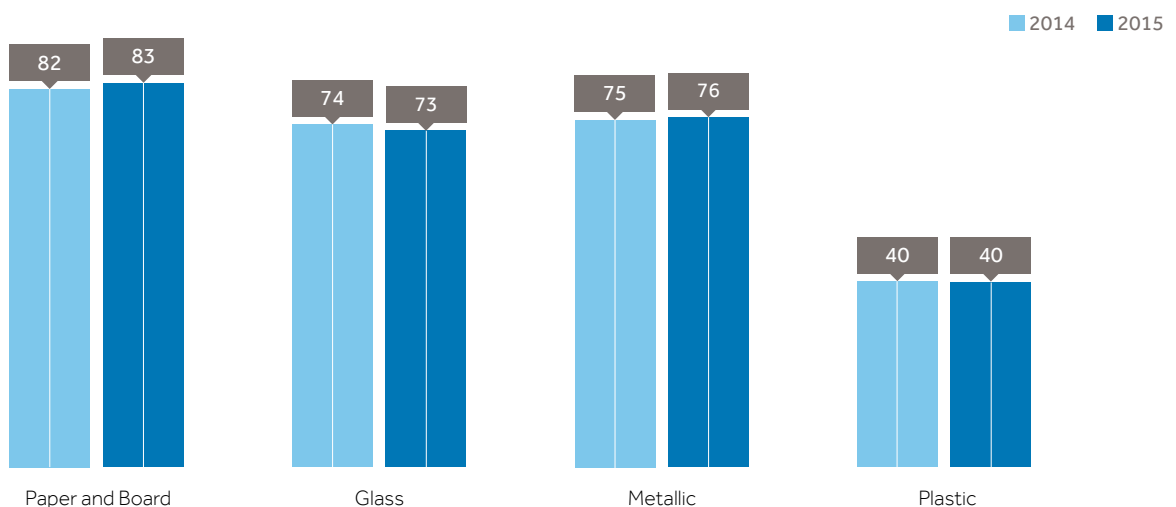
At the same time, hasty target setting and not fully understanding the dimensions of circular economy can lead to misguided decisions. In packaging we observe a focus on reducing weight to quickly reduce the volumes of materials ending at landfill. This ambition can, however, misguide society to move away from fit-for-purpose packaging and end up generating more product waste than with correct packaging choices. Another caveat is focusing on qualities that take the materials away from the recycling loop.

There is a risk that our principal raw material, recovered paper, can be 'wasted', either by being discarded instead of being recovered for recycling, or used as fuel for heating or electricity production. Our challenge is to prevent this from happening. We are committed to working with the recycling and paper producing industries and also welcome initiatives from other stakeholders in this area. Furthermore we support legislation that promotes using the economic value of materials as long as possible.

We have ample opportunities to reduce the amounts we send to landfill ourselves, either through partnerships with third parties or by developing our own solutions. One example is the collaboration between our SSK mill in the UK and Premier Waste, in which valuable fibrous materials are further extracted from recovered paper rejects and returned to the mill (see case story on the previous page).

Paper and paper-based packaging are highly recyclable and currently the most recycled packaging materials worldwide. While the overall paper industry in Europe generally achieves 75% recycling rates (which is lower than the 83% recycling rate for paper based packaging shown in the graph below), in the US and in Latin America 68% and 46% recycling rates respectively have clearly room for further development.

PACKAGING RECYCLING RATE IN EU 28 (%)
SOURCE EUROSTAT



CASE STORY



Smurfit Kappa Colombia turns waste into wealth

The corrugated plant of Smurfit Kappa in the Colombian city of Medellin encountered many waste materials like wood, solid plastics, plastic cups, and PVC tarpaulins. In 2014, the plant established a Temporary Waste Centre to improve waste management and facilitate recycling. A project team was set-up to focus on a circular-economy approach. By 2016, the plant was recovering 90% of total waste and using it for alternative revenue streams.

The project team consisted of internal and external experts, with a commitment to reduce waste and use it in other production processes. The team partnered up with a company that could use the plastic waste to make new useful products. The Medellin plant managed to create a closed-loop system and found that waste could be converted into money. New revenue streams emerged from producing playground equipment, pallets, chairs, and other durable products from 'waste' materials.

Employees' children now enjoy climbing all over the brand new waste-produced playground at Smurfit Kappa. The Medellin

Corrugated staff plan to produce more playground equipment to donate to schools in vulnerable areas of the city. The social commitment of our employees is further illustrated by their campaigns to encourage environmentally-conscious behaviour. For example, a plastic cap collection for the foundation FUNICANCER, generated funds to help treat young children with cancer.

The project not only involves all the people who are part of the company, but also includes visitors and contractors. The goal is to raise awareness about proper separation and optimisation of

waste, reducing the volume sent to landfill and benefitting the natural environment. In 2016, the plant generated a waste-related income of 4,000 euros, and, during just the first half of 2017, generated 3,000 euros. Currently the plant is nearing the 2020 Smurfit Kappa waste-reduction target.

Carlos Bolivar, Warehouse Assistant, says, 'I think the project is very important, as it allows us to raise awareness by involving everyone in proper waste separation, so that waste can be re-used. In that way we contribute to better air, a better environment and less waste.'

Alejandro Velasquez, Carolina Velasquez, Maria Lucia Ochoa and Sandra Cuartas



Progress in 2017

We approach the issue of waste pragmatically, defining the materiality of challenges in reducing various waste streams. Our starting point is the waste generated at our paper mills that is sent to landfill. After finalising a Group-wide assessment in 2015, we set a target to reduce waste sent to landfill from our paper and board mills by 30% per tonne of paper by 2020.

Over 90% of our waste is generated in our paper mills. Most of it is reject material generated by the recovered paper pulping and screening process. Other waste sources include sludge from the process water treated in our water cleaning facilities, calcium carbonate residues from lime kilns and ashes from biomass boilers. A large part of what is registered as waste actually has a water content of approximately 50%.

The amount of non-hazardous waste generated per tonne of paper and board in our mills remained stable in 2017 in comparison to 2016. Since 2013 this figure has decreased by 9%. The slight increase in the comparison between 2013 and 2016 reported in Sustainable Development Report 2016 is due to the inclusion of the Brazilian mills acquired in 2015 to the database in 2017.

The total amount sent to landfill from our paper and board mills increased slightly in 2017, compared to 2016. From 2013 until the end of 2017, our mills' reduction of waste sent to landfill remained flat at 13.3% per tonne of produced paper and board.

Less than one percent of our waste is classified as hazardous, mostly ink sludge from printing and converting operations, and some irregular hazardous wastes generated during mill and plant maintenance. Per operation, the amount of hazardous waste is small. Through our hazardous waste assessment, we learned that the key issue to be addressed is the correct classification of waste. Due to complexity or lack of clarity of local or national rules in defining waste materials as hazardous or non-hazardous, we believe that the actual amounts of hazardous waste are conservatively reported in this report. We are working on addressing this issue.

The amount of hazardous waste has increased in 2017 compared to 2016 from 6.800 tonnes to 8.200 tonnes for the Group in total.

Work towards optimised use of raw materials

Paper recycling is fundamental for our raw material sourcing, and globally, 75% of our raw material comes from recycled sources. Producing paper from recycled raw material converts our customers' waste into valuable raw material, creating a circular loop. To further improve the circularity of fibres, our SSK mill worked on a solution that is discussed in the case story on page 58.

Our converting operations send their paper clippings directly back to our paper mills, thereby delivering high-quality recovered fibre. This helps us keep recovered fibre at maximum quality. The recycled paper from our corrugating and converting operations comes with minimal auxiliary materials, which decreases the amount of waste generated in the recovered fibre pulping process.

Our virgin and recycled paper production processes produce various side streams, most of which are being utilised in a productive way. We continually look for new uses for those side streams, which would otherwise be wasted.

Other uses of side streams include agriculture, cement, food and pharmaceutical industries, and we continually collaborate with other sectors to find more outlets. The collected waste and by-products from our industry can become new raw materials. A challenge for our sector is finding a means to process the auxiliary materials added to paper by downstream industries. Although paper is recyclable, these materials cannot be sorted from paper in the dry-sorting steps before they reach paper mills. The two case stories on pages 60 and 62 illustrate our different, inclusive approaches to reduce waste.

In collaboration with the World Economic Forum Project Mainstream, we developed guidelines for the paper-based industry to improve the recyclability of paper. These range from the specifying of paper-based products, and using easily soluble inks and glues, to improving opportunities to increase already high recycling rates. We are a member of the WBCSD task force that focuses on increasing circularity of the bio-based materials.

CASE STORY



Kids enjoy recycling in Atlacomulco

Every month, three employees of the Atlacomulco Smurfit Kappa plant near Mexico City visit schools to educate children about the importance of recycling. The schools welcome the Smurfit Kappa teachers, and the kids learn about sustainability and are also encouraged to actively recycle by making use of the special bins we supply.

'In the beginning of 2017 we reached out to schools in the area to find out if they would enjoy guest lectures about recycling', explains Agustin Rosales, Smurfit Kappa's General Manager in Atlacomulco. 'The positive feedback encouraged us to put together fun workshops for kids from five to fourteen years old. We want to inspire new generations to be conscious about the impact we all have on our planet and neighbourhood. Our people visit the schools, and explain how paper and packaging is made. They demonstrate how it can be recycled and emphasise why it is so important to recycle.'

'All the participating schools also receive special recycling bins to separate paper, plastic, wood, and glass waste. This way we engage the schools, and directly empower the kids, to actively make a difference in their own community. We feel it is very important to educate young children about sustainability and influence their behaviour. We hope that by showing them the importance of recycling and giving them the opportunity, it will become second nature to them.'

Agustin Rosales continues: 'With Smurfit Kappa our programme was chosen as the best sustainability initiative among participants of Smurfit Kappa's Global Managers Programme (GMP). As a result, we decided to continue and intensify the training in 2018, to get even more children and schools involved. We hope that the kids' enthusiasm will also inspire parents to recycle. Other locations have shown interest in our approach so we hope our methods can help other communities. By investing 5,000 USD annually, we really make a difference.'



Karina Piña and Sergio Muñoz from Smurfit Kappa Atlacomulco at one of the fun workshops with school kids

Waste

Scope

This priority area covers non-hazardous waste (recovered and landfilled) and hazardous waste generated from Smurfit Kappa's manufacturing processes. Our target is set against waste sent to landfill from our paper and board mills per produced tonne of paper.

Commitment #1

Reduce waste generated at our paper and board mills and sent to landfill by 30% per produced tonne of paper by 2020 in comparison to the baseline year 2013.

Timeframe:

Target to be reached by 2020.

Progress made:

We remained at 13.3% reduction of the waste sent to landfill per tonne of paper from our paper mills. However, we have now introduced the three Brazilian mills acquired in 2015 to the target's scope.

Our perspective

We believe the circular economy is the business model for the future, and that we have an important role to play in it. Avoiding waste is a material issue for our stakeholders, and many of our customers have stated objectives to reduce waste.

Our products are designed to prevent loss and damage to the consumer goods they protect. Our packaging is produced efficiently and is right-weighted to optimise resource use and minimise waste. Made from 100% renewable and recyclable materials, our packaging can be recycled 6-8 times and once fibres are depleted, is typically used for energy generation or in agriculture.

Given that paper production itself generates almost no waste, it is interesting to consider why waste is so important for our industry. Put simply, our principal raw material – bales of recovered paper – contains unwanted materials such as plastic, metals, textiles, wood and sand. These are separated out during the water-intensive pulping of recovered paper fibres.

Our goal is to remove all avoidable waste from our production system and limit waste sent to landfill to materials that can no longer be recycled or recovered.

We value the commitment our people show every day to help Smurfit Kappa play a leading role in the paper-based packaging industry. Our strong track record on sustainability and wider community engagement is a cornerstone of our success.

SUMMARY

We achieved our five-year target to reduce the LTA frequency rate by 5% annually, with an average reduction of 9% yearly.

We introduced a new Health and Safety target to reduce TRIR globally by 5% from 2018 onwards.

We executed our second MyVoice employee survey with a 84% response rate globally.

We piloted a new leadership model targeting women in leadership.

The way we interact with people, both directly and indirectly, has important implications for our business. We aim to build excellent relationships with employees and customers, and to earn the respect of people and communities where we are active.

We start with a fundamental respect for human rights, and implement this by following Smurfit Kappa's Code of Business Conduct. As a good corporate citizen, we contribute to UN SDG 1: No poverty, UN SDG 4: Quality education, UN SDG 5: Gender equality, UN SDG 8: Decent work and economic growth, UN SDG 10: Reduced inequality and UN SDG 11: Sustainable cities and communities.

In common with many companies, one of the key challenges for Smurfit Kappa is attracting the right talent to ensure succession planning and leadership continuity. As a business-to-business provider without a direct consumer interface, we compete with companies that enjoy stronger brand-awareness. Therefore to attract the best candidates we need to be innovative, particularly when focusing on younger people and 'millennials'. We face the challenge that many of our operations are in rural areas where the population density is low and educational levels may not be sufficient to fill certain roles. Attracting female applicants to our sector is a particular challenge, and our response includes tailored programmes to promote female recruitment (read more in case story on the next page).

At Smurfit Kappa, Health and Safety is a core value, not just a priority. We promote a Health and Safety culture founded on authenticity, empowerment and accountability, and believe that operating safely is non-negotiable. Every task is important enough to be accident-free. Our Health and Safety performance improved in 2017, with a reduction in the number of accidents compared to previous years. This was a direct result of implementing Health and Safety initiatives, and reinforcing our Health and Safety values to all managers and employees. However, the LTA severity rate increased from 2016. Our ultimate goal is zero accidents globally, and to make Smurfit Kappa the safest company in our industry.

Employee engagement is one of the pillars of our business strategy, and is informed by our company-wide engagement survey 'MyVoice', which we launched in 2014 and followed up in 2017. We believe that a company whose employees are engaged shows higher growth, faster innovation, greater customer satisfaction and – as a consequence – better results. One challenge is to increase company engagement-levels to further improve good workplace environments, and in response, we have developed programmes and processes which are detailed in this report. By responding to our employees' views in this way, we promote core values of loyalty, respect and integrity to the 46,000 people who work with us.

CASE STORY

Women in Leadership



Smurfit Kappa has always strived for greater inclusiveness and diversity at all levels of the organisation, especially equality for women in leadership roles. In 2017 a number of women were sponsored onto leadership programmes, and found they benefited greatly in confidence, and skills to improve diversity in the workplace.

In support of the Diversity and Inclusiveness agenda of Smurfit Kappa, in 2017 some of our female managers in Europe and the Americas took part in 'Women in Leadership' programmes. These programmes are similar in content and aim, offering opportunities to learn about the latest thinking in leadership.

They also specifically focus on the challenges and opportunities female leaders can encounter in their careers, helping them understand their own strengths and learn new techniques to use in the daily activity of dealing with their hierarchy, their peers and their teams. The programmes

also provide access to a network of female professionals from different companies to work with in the future.

One of the participants was Laurence Vasseur, CFO of Recycled Paper West, the cluster comprising all our paper mills in France, Italy, Spain and the UK.

Laurence comments: 'Participating in the Women in Leadership programme was a really positive experience. I have learnt a lot in understanding the specific challenges we can face as female leaders in the working environment. Biases, both unconscious and cultural, can

hinder gender diversity and are often difficult to reduce if not tackled by positive action and management awareness. This was a great eye-opener for me, as in my management position I can directly play an important role in promoting inclusiveness in the workplace. Only management awareness, coupled with positive action undertaken by companies, will lead to stronger diversity acceptance in leadership and management styles.'

Laurence Vasseur



PEOPLE (CONTINUED)

People Values

To achieve sustainable long-term success, we want to attract and retain talent in all the countries where we operate by being a leading employer. Smurfit Kappa unites some 46,000 people around the world, their commitment has a positive effect on our customers. At Smurfit Kappa, we commit to actively support our teams in achieving their personal goals and full professional potential.

Smurfit Kappa is committed to managing in accordance with our declared values. We recognise that good social citizenship, reflected in our interactions with employees, business partners and host communities, is essential to creating a sustainable future.

Smurfit Kappa fosters meritocracy and respect in a safe and open work

environment. In keeping with the United Nations Declaration of Human Rights and the Fundamental Principles and Rights at Work developed by the International Labour Organisation, the following principles and conditions are maintained in every country in which we have a presence. While our policy is to select the best person for a position, by far the greater proportion of senior operational positions are held by local managers.

Respect

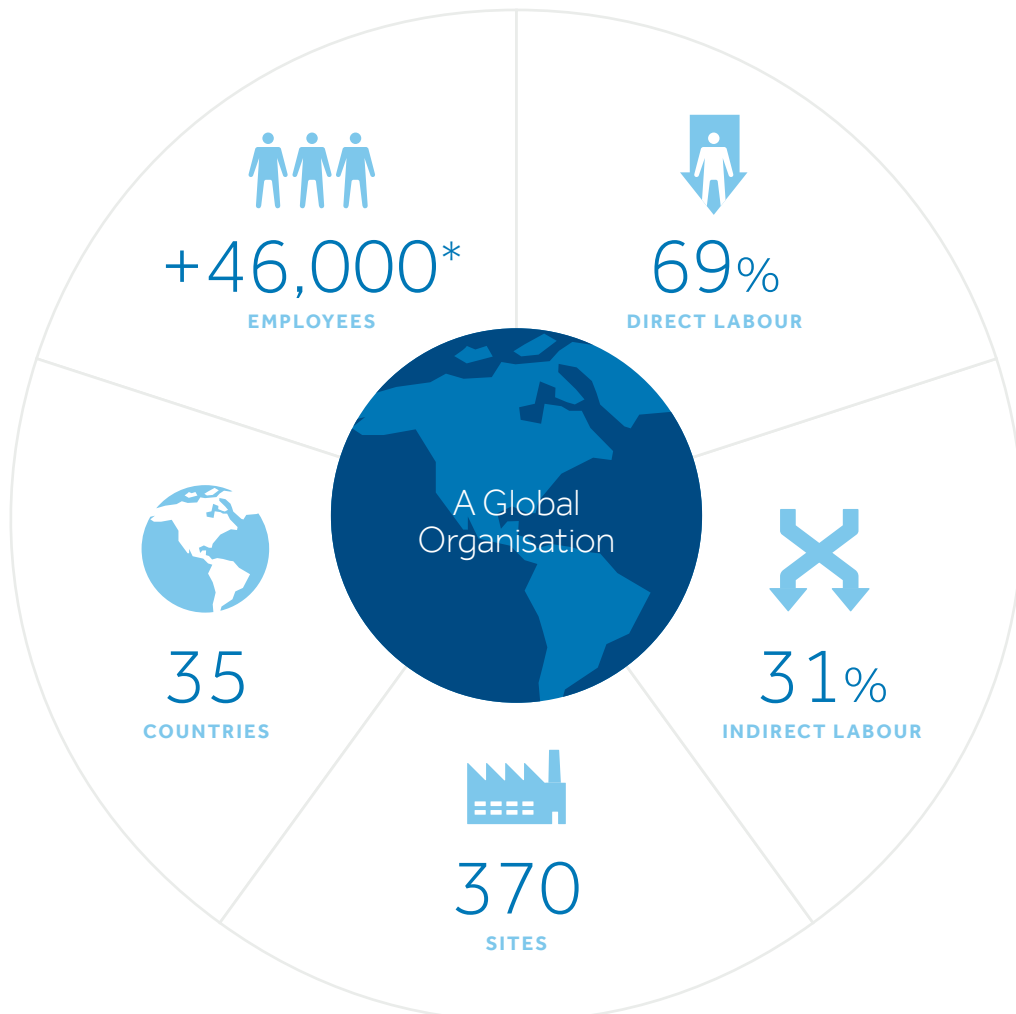
We value the contribution our employees make to our business. Smurfit Kappa is committed to providing a working environment that is safe, respects individuality, is non-discriminatory, appoints and promotes people on suitability, rewards fairly, encourages personal and professional development, and has effective mechanisms of communication.

No discrimination

Smurfit Kappa prohibits discrimination on the grounds of race, ethnicity, gender, sexual orientation, age, religion, national origin, disability or other legally protected status in the countries in which we conduct business. This commitment extends from our own employees and on-site contractors, through external suppliers and other business partners, to communities near our operations.

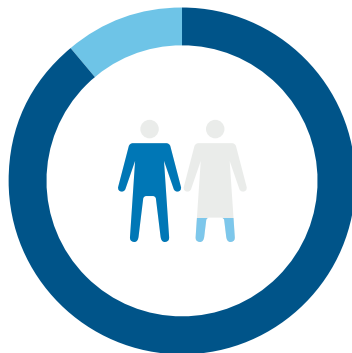
Working fairly

We prohibit child labour. We will not employ anyone under minimum school-leaving age or minimum employment age in any country, and no violations of this were identified in 2017. We do not tolerate forced labour or physical abuse, from ourselves or from those with whom we do business. In 2017, 26 of our operations were subjected to Sedex Members Ethical Trade Audits.



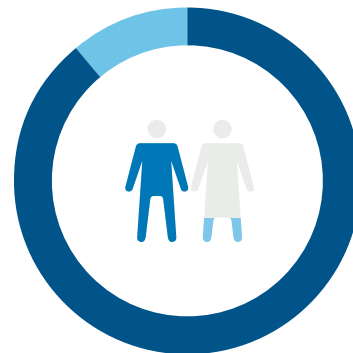
* Based on full-time number of employees and contractors, all other figures based on Smurfit Kappa employees only.

TOTAL EMPLOYEES BY GENDER



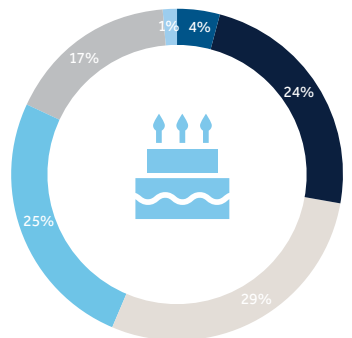
<input type="radio"/> Female	19%
<input type="radio"/> Male	81%

MANAGEMENT BY GENDER



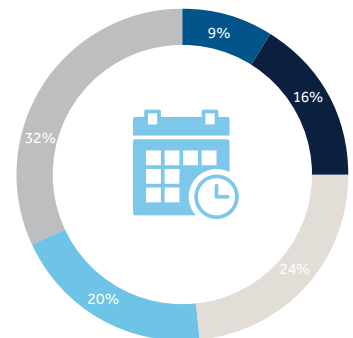
<input type="radio"/> Female	20%
<input type="radio"/> Male	80%

AGE DISTRIBUTION
43% UNDER 40 YEARS



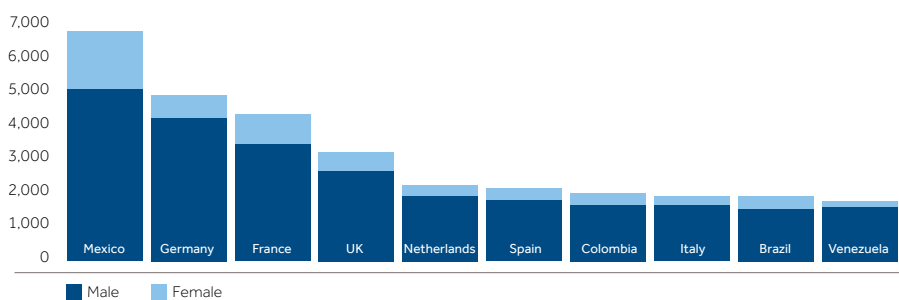
60+ years <input type="radio"/>	31-40 years <input type="radio"/>
51-60 years <input type="radio"/>	21-30 years <input type="radio"/>
41-50 years <input type="radio"/>	- 20 years <input type="radio"/>

LENGTH OF SERVICE
49% OVER 11 YEARS

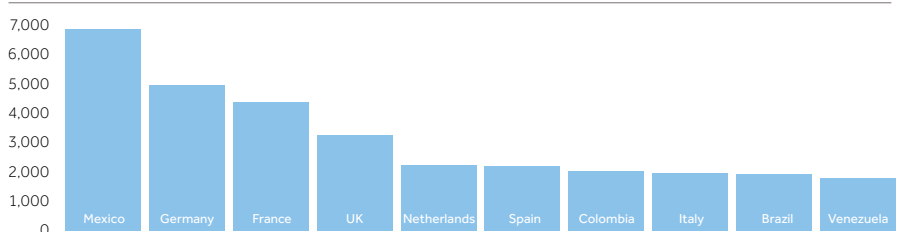


30+ years <input type="radio"/>	5-10 years <input type="radio"/>
21-30 years <input type="radio"/>	- 5 years <input type="radio"/>
11-20 years <input type="radio"/>	

TOTAL EMPLOYEE GENDER - TOP 10 COUNTRIES 2017



TOP 10 COUNTRIES HEADCOUNT 2017 - COVERING 74% OF OUR DIRECT WORKFORCE



PEOPLE (CONTINUED)

Compliant acquisition practices

In any of our acquisition processes, due diligence involves examination of the target organisation's human rights, anti-corruption, and anti-bribery policies and practices. We examine their compliance with local, national and international laws, and the day-to-day interpretation and application of these.

If any serious non-compliance to these policies and practices arise, the acquisition will be reconsidered. There were three acquisitions during 2017, and no such issues arose.

Freedom of association and collective representation

We support our employees' right to join trade unions, and for representatives to negotiate on their behalf. If freedom of association and collective bargaining are restricted, or employees do not want trade union membership, we work with them to establish mutually acceptable means of representation.

We ensure employee representatives do not suffer any disadvantage or discrimination because of their role. In 2017, we had no confirmed case where either the association or bargaining rights of any individual or group of employees have been denied. Collective agreements, currently applicable in some 90% of the Group's sites and covering 72% of our

employees, are the result of either local or national negotiations in the countries concerned.

In many countries, Smurfit Kappa conducts formal employee consultations with local Works Councils (WC). More about these councils can be read in our Annual Report 2017 on page 57.

Modern Slavery Act

Smurfit Kappa is subject to the provisions of the UK Modern Slavery Act. During 2017, we updated our principles and policies with respect to our employees and suppliers to ensure compliance. See also our Annual Report on page 57.

People Vision and Strategy

As part of our overall business vision and strategy, we have developed a People Strategy to attract, engage, develop and retain talented people in Smurfit Kappa. We offer current and potential employees the opportunities and conditions to become high-performers and achieve their full potential.

The People Strategy is a key facilitator for achieving Smurfit Kappa's short and long-term business targets and is based on six major pillars, plus the fundamentals illustrated in the picture below:

Talent Attraction

Smurfit Kappa aims at all times to match the right person to the right role. The underlying process is two-fold: ensuring that our existing talent is properly developed, but also attracting new talent with the correct skill set. The longer-term goal is to make sure the talent pipeline meets future leadership requirements.

The Group offers graduate programmes in many countries where we operate, typically lasting two years and offering challenging assignments and opportunities. Read more about a graduate's experience in the case story on the next page. The aim is to attract talent in various disciplines and offer the candidates the prospect of a successful career at Smurfit Kappa. Today's young talent is our future leadership.

Following the company branding strategy 'Open the Future', we have now developed a global employer brand we want to use to calibrate all our talent attraction programmes and approach even more professionally the employee recruitment market. An employer branding campaign has been developed that invites talented people to join Smurfit Kappa under the message 'Where will you take us? The campaign is made of a number of communications and social media content, promoting the diversity and depth of the world of Smurfit Kappa.



CASE STORY



Building skills for a successful career

Smurfit Kappa greatly values continuous training and education. Employees from all over the world, and from all levels of the company, join training programmes to expand their skills and expertise. General manager Osmara Arellano from North America, and personal assistant Carole Glacet from Europe, share their experiences.

Osmara Arellano is General Manager at Smurfit Kappa Mexicali in Mexico. 'I've been with the company for 17 years,' she tells us. 'Five years in my current job and twelve years in customer service, customer service management, production scheduling, and operations management. To further expand my skills, I've participated in the Global Managers Programme and studied at INSEAD. It helped me to understand different cultures, and gave me insights into how problems can be solved in different international settings. Basically it tackles world-views

that could interfere with finding solutions to specific situations. I enjoyed the practical approach that I could easily apply to my daily challenges, along with know-how and hands-on skills. These training programmes are of great value for all participants on a personal and professional level. The more qualified our team is, the better our company will perform.'

Carole Glacet from France recently completed the Smurfit Kappa Paper Graduate Programme. She is now Personal Assistant to one of the Group's senior executives. 'The Graduate Programme gave me the opportunity to experience

different companies and cultures, whilst also earning a living. I started in a Spanish mill, as part of a team refurbishing the paper machine, then moved to process optimisation at a UK recycling mill. Finally, I was a Process Technologist at the kraftliner mill in Piteå (Sweden). After my Masters in chemical engineering, I enjoyed getting involved in actual production plants – it provided a great overview of Smurfit Kappa activities, and a quick way to learn new skills. For me, it really has been the launching platform of my professional career.'

Osmara Arellano



Carole Glacet



PEOPLE (CONTINUED)

Employee Engagement

As stated in the People Vision, Smurfit Kappa strives to be a great workplace for its employees. The MyVoice programme was introduced in 2014 to measure the workforce level of engagement and understand the drivers of engagement in all the countries and sites where we operate. It acts as a continuous improvement cycle. All 46,000 employees regularly share their views on working in Smurfit Kappa, via the global survey. The survey measures the level of employee engagement and shows the positive points of the work experience, as well as key areas for improvement. As a follow-up to the survey, actions in each plant and mill are being taken based on the specific local MyVoice outcomes. In addition, company-wide and regional actions are implemented.



In October 2017, the second MyVoice global employee engagement survey was held, building on the first survey of 2014.

The response rate of 84% exceeded the already high response rate of 80% of the first survey. The survey is totally anonymous and coordinated by a third party. The high response rate shows that Smurfit Kappa employees have full confidence in MyVoice as an effective opportunity to have their voice heard on their work experience in the company.

In MyVoice 2017 we recorded improvements in all levels of engagement versus the previous survey, in all our regions (Group, Europe and the Americas). We recorded improvements in all but one of the drivers of our engagement model. Great progress was made, particularly in our 2014-17 focus areas of Leadership and Career Opportunities as well as in Learning & Development and in Diversity. Health and Safety came out again at the top of all engagement drivers, reconfirming the perception of

Safety as a key value across the entire organisation. At the same time, we would like to make further improvements, as engagement is a long-term journey. We have consequently identified new focus areas and want to accelerate improvements in some entities.

Areas such as cooperation and collaboration between departments and teams and also Rewards & Recognition could be further improved. Career opportunities can be better communicated and made more visible to all employees. Promoting practices of continuous feedback on individual and team performance is seen as an opportunity to improve results.

The results of MyVoice 2017 were communicated to all employees during the first quarter of 2018. This is followed by action planning in the second quarter, addressing priority areas identified in the survey as priority. Actions will be defined largely in a bottom-up process, based on the local results in each plant or mill. In addition, similar to the previous survey, a few company-wide and regional actions will be implemented.

The MyVoice survey is a permanent feature of Smurfit Kappa, and considered as a continuous improvement cycle. It is the trusted tool to help make Smurfit Kappa an even greater place to work. Learn more about why it is important to measure employee engagement in the case study on page 71.

Training and Leadership Development

We believe in offering, at all levels of the organisation, the chance for people to increase their skills and knowledge, helping them fulfil their potential and widen their career prospects. To achieve this, a broad range of training and development initiatives are provided centrally, and at local level. Overall in 2017, each Smurfit Kappa employee spent an average of 26 hours in training.

Since 2000, 430 high-potential talents across the Group have successfully finished our Advanced Management Development Programme (AMD), and

111 managers have completed our Global Manager Programme (GMP) since its inception in 2012. In 2016, the Graduate Workshop for talented young graduates was successfully piloted in Europe. In 2017 we ran a further two workshops in Europe and piloted sessions in the Americas. By the end of 2017, around 120 graduates across Europe and the Americas had attended these workshops. More about participant experiences can be read in the case story on page 69.

Furthermore, in line with our Brand strategy, we worked to deliver sales excellence throughout Smurfit Kappa. The strategic objective was to create, communicate and capture measurable value for our customers, with a central focus on delivering an enhanced customer experience. By equipping our employees with the best tools and skills, we can ensure sales excellence is 'front and centred' within our organisation.

Centred on one Smurfit Kappa sales process, we have trained over 2,000 sales executives globally. It is crucial that we continually evolve in today's competitive, fast paced business environment, so we are ready for any changes that come our way. We need to understand our customers' buying journey, and this dynamic value sales-process ensures our sales teams are more successful in effectively communicating and demonstrating our expertise. This delivers quantifiable and monetised value to our customers across the end-to-end value chain.

At Smurfit Kappa the business language is English. We work with a leading language school in Dublin to offer programmes to improve the English language skills of non-native English-speaking employees. Since 2007, over 570 employees have improved their English with an immersive learning experience at this school. We also offer an eLearning tool for our employees to focus on their English skills, and to date 1,800 employees have participated in English eLearning programmes delivered through this tool. There are also many locally delivered programmes which are often the first step in developing new language skills.

CASE STORY



MyVoice – Say, Stay, Strive

Engaged employees make good business sense. Studies show that employee engagement directly affects company performance through faster innovation, higher customer satisfaction, increased productivity, lower absenteeism and fewer lost time accidents. All these have an impact on company profitability.

Smurfit Kappa partnered with Aon, a leading company in employee engagement, running surveys for thousands of companies worldwide. Aon measures engagement along three dimensions: SAY, STAY, STRIVE. An engaged employee talks positively about the company, would not readily leave, and is committed to go the extra mile.

The first Smurfit Kappa MyVoice survey in 2014, helped establish areas to improve employee engagement. The second survey in October 2017, helped check if the actions had been effective, and what the company should do next. Both had a high participation-rate, increasing worldwide from 80% in 2014 to 84% in 2017. This is at the top end Aon's participation

benchmark (65-85%) and it indicates that Smurfit Kappa employees trusted the survey's confidentiality, seeing MyVoice as a great opportunity to make their voices heard.

'People spend a large part of their lives at their workplace, so they will naturally want to be engaged' says Jake Outram, Principal Consultant from Aon. 'What drives this engagement is personal, and changes with time and the changing environment. For example, when the world is in turmoil, employees' expectations of company leadership are different than in more stable times. A company with engaged employees should therefore focus on the relevant approach at the right time.'

Putting effort into employee engagement is important to companies. It shows they are taking their responsibilities seriously, recognising employees as an important asset that delivers customer and shareholder value. 'Through understanding employee engagement, the company turns risks into opportunities and is more prepared for changes in the business environment,' explains Jake Outram. 'Engaged employees are passionate about their work and workplace, praising their employer outside the company, and helping attract best talent. Ideally, this employer brand-building can mean that former employees give good reports of their employer, and are happy to return to the company.'

During 2015/2016, we launched our new Smurfit Kappa Leadership model, 'Open Leadership', helping identify necessary leadership qualities to continue improving management performance, and anticipate the changing demands of our markets. Nine key capabilities are identified as essential components of our open leadership style today and in the future, enabling managers to become true leaders, and promote employee engagement.

Based on the model we developed, the Open Leadership training programme in partnership with INSEAD, the International business school, one of the world's largest executive education providers, with a top spot in the Financial

Times rankings for MBA programmes during 2016 and 2017. In 2017, 56 Managers completed the three-module programme, and 175 started Module 1. Our goal is that all 350 of our target population will have started the programme by June 2018.

In addition, many countries are designing and implementing similar leadership programmes for local middle managers, supervisors and shift leaders – for example, in Germany, The Netherlands and Colombia.

In Germany: We implemented a comprehensive Leadership training programme, based on the key capabilities of leading self and leading people. The programme

familiarises local managers with the Smurfit Kappa Open Leadership Model and encourages them to reflect on current leadership skills and improve leadership performance. It is a three-day workshop, with a follow-up day several months later to reflect on experience and progress. Each workshop has fifteen participants from all levels of management in the country. The programme has been extended to Austria, Switzerland and The Netherlands. We plan twelve further workshops in 2018 and 2019.

CASE STORY



Health and Safety engagement at great heights

In Smurfit Kappa Poland, Maciej Kostecki is an experienced Health and Safety Manager. As part of his tasks, he spends time developing practices to ensure that maintenance activity at heights is completed in the safest way possible. With a creative approach to training, he made sure that a height-related safety course left a lasting impression on all participants.

'Our Health and Safety team actively looks for ways to positively influence the safe working behaviour of our colleagues at Smurfit Kappa,' says Maciej Kostecki. 'Our employees' well-being is paramount. The biggest enemy of any Health and Safety effort is routine. Routine often blinds people to dangers, or creates slackness that can have lasting effects. To prevent that, our Health and Safety team focusses on very realistic training scenarios to make a lasting impression on participants. It is not the most easy and straightforward way to conduct training, but we know from experience that the long-term effects are positive.'

Annually, Smurfit Kappa Poland assembles a team with representatives from all five locations to participate in a two-day first aid experience. During intense and extremely realistic simulations, the team competes with squads of other companies to provide the best first aid in all situations. 'It is not about winning, but about creating experiences that participants will always remember, and getting valuable feedback from professionals', says Maciej

Kostecki. As a continuation in this series of very realistic Health and Safety sessions, Smurfit Kappa Poland added a special 'Working at Height' course in 2017.

'Every employee who works at height is exposed to risks, and must be trained accordingly, whether it concerns changing a light bulb, doing maintenance on a machine, working on movable platforms, or performing roof

repairs. We organised a two-day training course for our Health and Safety coordinators and supervisors, with a team of alpinists specialised in industrial activities. Practicing safety standards at impressive heights, our participants soon realised the importance of a team approach and how fundamental behavioural awareness benefits the safety of all concerned.'



Maciej Kostecki

In the Netherlands: We have implemented a leadership training programme aligned with the Open Leadership model. It is called SKYPE – Smurfit Kappa Young Professional Expedition – and supports the leadership skills of potential future leaders and recently-appointed managers. The areas of Leading Self, Leading People and Leading the Organisation are covered in three modules of two to three days each. Training in the classroom is supported by external coaching and company visits. We run one session per year, and ten participants attended in 2017.

In Colombia and Central America: We continue to focus on our Open Leadership model with the objective of reaching different levels of the company. Currently, we are reaching plant supervisors and the managers of administrative areas.

In 2017 we included one of the key areas of our Open Leadership model (leading self) in our high performance development programme. The next step will be to continue replicating this model through the Central Cluster.

By the end of 2017 we also started a new training programme for senior management, where we provided tools for all our leaders to enhance their communication and feedback skills.

Diversity and Inclusion

In Smurfit Kappa we promote all forms of diversity at all levels of the organisation. We believe it enriches the company's perspective, improving corporate performance, increasing shareholder value and enhancing the probability of achieving the Group's objectives.

It is recognised that a culture of Diversity and Inclusion drives performance. Customers benefit from faster innovation as the diversity of perspectives within Smurfit Kappa will help to find better solutions more quickly. Also, a diverse and inclusive company is able to attract talent from a larger pool.

Focus is given to three main areas in relation to diversity:

- Attracting and retaining people who enrich diversity within the company
- Ensuring the company's culture and management systems are aligned with, and promote the achievement of diversity
- Monitoring, reviewing and reporting on the achievement of diversity within the company, with a specific focus on gender diversity.

Diversity is now embedded in the company's 'Open Leadership' model as one of the nine leadership capabilities: 'Open up and make the most of diversity'. Our leaders value diversity and utilise the new and different ideas that come from a diverse team.

Through our company's engagement survey, MyVoice, we are able to monitor the perception of our 46,000 employees on diversity and inclusion, with specific questions set on this particular subject.

Within Smurfit Kappa, we address all common diversity issues, with a specific focus on gender gaps. We want an equal gender-balance in our graduate programmes and have at least 30% women as shortlisted external candidates for management vacancies. All vacancies and job descriptions are formulated to demonstrate that we are an equal opportunity company, valuing a diverse workforce.

Our company continually progresses in this area, establishing many examples of good practice. We take note of successful diversity practices in other companies, and use new research in this important area.

For example, Smurfit Kappa policy is to aim for an increasing number of women in management roles. To this end, we reviewed the areas and roles where retention and advancement of women has the greatest potential. We also promoted female participation in our management training programmes – in our Graduate Programme, for instance, female participation is around 40% and in the Advanced Management Development programme, participation by women is stable at 30% since 2015. We also pay extra attention to female

managers with high potential when reviewing our succession plans.

Performance Management

Smurfit Kappa is committed to the continual personal and professional development of all our people. To deliver this there is an ongoing dialogue between employees and managers, focusing on the skills, capabilities, strengths and potential for improvement of each employee.

We recently reviewed our Performance Appraisal practices, renaming them 'Performance Dialogue' to emphasise the two-way communication between managers and employees. Among the outcomes is a mutually-agreed development plan for employee progression.

These dialogues are a key element in our performance-management process, enabling every employee to reach their performance potential, contribute to their team, and meet Smurfit Kappa's overall objectives. We aim to increase the number of employees engaging in Performance Dialogue, with the long-term goal of all employees taking part.

We also offer to participants in our Open Leadership and GMP programmes the opportunity to be part of a 360-degree feedback exercise. In this, not only their managers, but also their colleagues, peers and customers assess their leadership style, and identify areas for improvement.

Fair pay, compensation and benefits

Compensation is a core part of our employee management strategy. We provide competitive rates of pay and ensure fair compensation practices across all our locations. Smurfit Kappa does not gender-discriminate in terms of salary, benefits or any other consideration. We rigorously apply the policy of 'same job, same pay'.

Where applicable we engage with unions, works councils and employee representatives to ensure fair and sustainable Collective Labour Wage agreements. The employees are rewarded in line with their individual and business performance.

CASE STORY



Risk prevention awareness at work and at home

Health and Safety has always been an important focus in the operations of Smurfit Kappa Mengibar, but the Spanish paper mill located in the heart of Andalusia has given it new meaning and depth. Their approach can be translated as 'At Home and at Smurfit Kappa'. The philosophy is straightforward. Taking good care of employees does not stop when they leave the company premises, but should include their home situation and family as well.

'It's all about establishing a risk-prevention culture for all people connected to Smurfit Kappa,' Mill Manager Ramón Callejo explains. 'Our recycled paper mill has been operational for almost 50 years. Nowadays we employ 120 people at our modern production facilities surrounded by traditional olive tree plantations. Growth in production also meant that our Health and Safety efforts needed to intensify. I am very proud that our employees have managed seven straight years without any Lost Time Accidents.'

Most managers would probably assume that such a record needs no further improvement. However, in Mengibar, management concluded that they should make their Health and Safety approach more accessible for people outside the factory. They introduced several initiatives to make their vision of safety inclusiveness a reality. A special safety day was introduced. Families were invited to visit the paper mill to get to know the place where their loved ones work, witness the safety measures, and participate in workshops to learn risk-prevention at home.

Ramón says, 'Our Safety Week raises awareness, promotes responsible behaviour, stimulates discussions, and exchanges ideas. To further professionalise our efforts, we approached the University of Jaén to set up a psychosocial risk prevention project. We think that taking good care of employees is a positive driver for them, their families and the surrounding community. Extending the scope of our activities from work to home has had a tremendous positive impact. We even received an Andalusian Flag Award for our safety approach for socio-economic development in Jaén.'

Ramon Callejo and family members of SK Mengibar employees



CASE STORY



Smurfit Kappa Mexico is on a roll, eliminating NIP-points

The converting division of Smurfit Kappa Mexico has managed to eliminate 95 nip-points – points in which a person can easily get trapped – at eight corrugated plants. Improvements in Health and Safety are a constant focus to make our factories a safer workplace for all employees. Nip-points that must be accessed while the machine is running are hazardous, for example machines which feature a narrowing opening that can trap work wear, hair or body parts, and can cause serious injuries.

At converting plants, danger occurs when material is hand-fed, or employees are working very near machinery. Most machines are too powerful, or run too fast, to be stopped in time to prevent entrapment-injuries. This danger increases when machinery needs adjustment: for example problems with feeding, misalignment or breakdowns. These usually require manual intervention, posing additional hazards.

Awareness is an important factor in preventing problems, but elimination of nip-points is much more effective. A team of Health

and Safety coordinators, managers, supervisors and engineers at Smurfit Kappa Mexico found that all printing units posed a trapping hazard. Optical sensors were installed in every machine to eliminate the risk of being trapped between the printing rolls, a major improvement that ensures the safety of the operators of the converting machines.

Juan José Martínez, Plant Manager of Smurfit Kappa Corrugado Atlas, explains: 'We were looking for a different approach, and improved results by eliminating trapping points in the printing units.

So we stopped doing the same old things, and instead installed something completely new – a beam sensor that detects the presence of fingers and hands and stops the equipment on time. As a result, we managed to eliminate the risk of suffering serious injuries to body parts. We are very pleased that our people immediately felt they were working under safer conditions. Our main concern is, of course, that all our colleagues return home healthy and safe after a day's work.'



PEOPLE (CONTINUED)

In common with many large businesses, Smurfit Kappa provides a range of employee benefits. Some, such as maternity and paternity leave, are provided under the legislation of specific countries. Other employee benefits, such as pensions and life insurance, form an integral part of our remuneration package in various countries.

Safety and Wellbeing

Our global health and safety improved again in 2017, with an overall reduction in the number of accidents compared to previous years. This was due to Health and Safety actions and initiatives implemented across the Group. However, the LTA severity rate increased from 2016 by 3%. Our MyVoice survey, which took place across all sites worldwide, clearly showed Health and Safety as a strength.

Employee health and wellbeing has become a key focus with the implementation of many initiatives across the Group. A very good illustration of this is the activities during our Health and Safety Day, which is celebrated every year in each of our sites around the end of April. As usual, in 2017, this event was organised within our operations under the global theme 'Speak up & Stay safe' and was kicked off with a video message from the Group CEO.

We are committed to continuously reviewing and improving our Health and Safety practice and performance. We know that doing the right things, in the right way, with integrity and respect is necessary to engage our employees and create a successful business based on trust. A safe workplace also benefits the whole community as the case story on page 74 shows.

Smurfit Kappa has a structured approach to Health and Safety, through which we continually improve our safety performance. It is our policy to:

- Promote a culture of openness, involvement and dignity in the workplace; we are all responsible for each other's health and safety.

- Provide constructive feedback for success and setbacks in equal measure. We care for our employees and expect them to care for each other, by speaking up when noticing anything they feel is unsafe.
- Review workplace incidents so there is consistent reporting, investigation, and, where appropriate, identification of improvement opportunities that strengthen our Health and Safety management systems.
- Comply with all applicable legal requirements and implement good Health and Safety practice by effective deployment of our Health and Safety Management Systems.
- Ensure that all line managers:
 - Take responsibility for Health and Safety implementation, communication and compliance
 - Foster a work environment where every member of the workforce understands their role in Health and Safety and delivers on their individual responsibilities
 - Provide competent employees and contractors who are trained to work safely

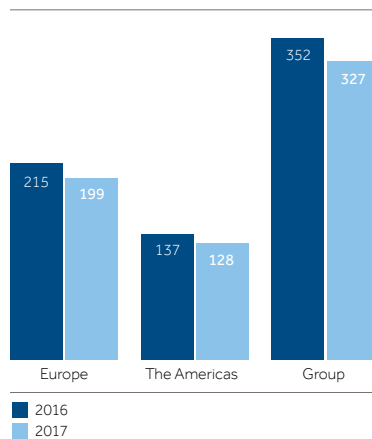
- Have processes in place to identify Health and Safety hazards so that risks are assessed and controlled to acceptable levels, to prevent the occurrence of injury and ill health for our employees, contractors, partners and visitors.

When compared with 2016, the Group has achieved the following Health and Safety performance improvements in 2017:

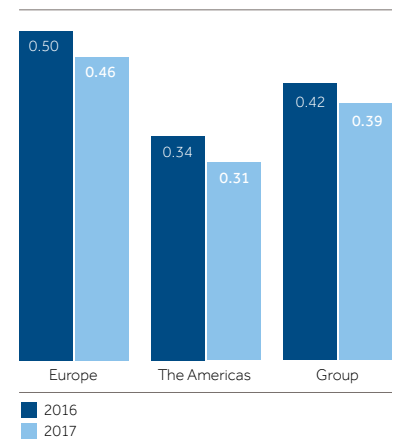
Group:

- Our target to reduce lost time and injury rate by 5% annually for the period of 2013-2017 was reached. With a 7% reduction in LTA frequency rate in 2017 compared to 2016, the annual decrease over the five year period 2013-2017 was approximately 9%, meeting our target of 5% reduction each year.
- In recognition of the number of our operations achieving zero lost time accidents we introduced TRIR as our primary reporting measure.
- From 2018 onwards our new target is to decrease Total Recordable Injury Frequency Rate (TRIR) by 5% annually.

NUMBER OF ACCIDENTS
FULL YEAR 2016 vs 2017



LOST TIME ACCIDENT FREQUENCY RATE
FULL YEAR 2016 vs 2017



Europe:

- We reviewed the Health and Safety function within the business divisions, and as a result restructured and added resources within the Paper & Board division.
- The European Health and Safety committee promoted consistency and good practice with the introduction of a Health and Safety Framework that focused on implementing processes and policies to manage risk (read about an example of a training on page 72).
- We ensured key learning from mistakes by promoting a stronger culture of accident investigation, and reviewing incidents at the most senior levels (Executive Committee meetings).
- During the 2017 Safety Day, we involved employees and contractors in activities on all sites.
- The frequency of lost time accidents decreased by 9% from 0.50 in 2016 to 0.46 in 2017.
- The number of lost time accidents decreased by 7% from 215 in 2016 to 199 in 2017.
- Of our 244 operations, a total of 147 reported zero lost time accidents.

The Americas:

- Operations continued the work on creating a safety culture among all our employees by promoting self-awareness, leading by example, and providing the necessary resources for safety.
- All our operations continued to improve risk assessments and accident investigations at all sites (see an example from Mexico on page 75).
- Our number of lost time accidents decreased by 7%.
- The frequency of lost time accidents decreased by 8% in the region, reaching the best performing metric in the last 10 years.
- 62 of our 115 operations reported zero lost time accidents.
- We also improved safe bale storage and handling practices.

Regrettably, we had two fatalities during 2017. An employee at our Elcorr (the Netherlands) corrugated plant suffered a fatal injury whilst operating a palletising line. An employee at our Forestry division in Venezuela suffered a fatal injury whilst in the course of his daily job. As a result, we have reinforced our site procedures and employee consciousness in all operations in Venezuela and are investigating the reasons leading to the incident in the Netherlands.

Communities

In Smurfit Kappa we actively support local communities through our Smurfit Kappa Foundations and local operations. Internally and externally we adhere to high ethical and professional standards, making the well-being of people a priority throughout our organisation.

Smurfit Kappa invests significantly in its host communities, contributing to their economic and social development. The aim is to keep generating well-being and improvement through our core business in areas vital for the future, such as education, income generation, collaboration, and participation. By doing this, we can make positive, lasting changes in the communities with which we are privileged to work.

Community Involvement

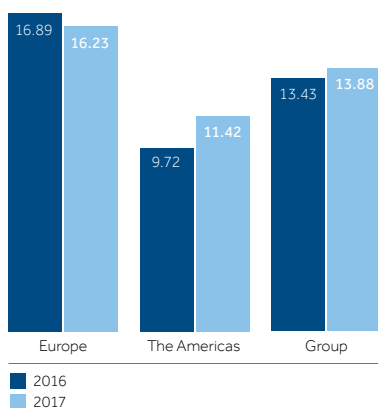
We always consider the concerns of wider communities at national and international level. Community involvement builds trust and serves as a link to the issues important to us. Local general managers are expected to represent the company as part of the local community and play a positive part in its development. We focus on self-help initiatives, education and health programmes, and contribute through financial donations and volunteering by local employees.

Smurfit Kappa Foundation

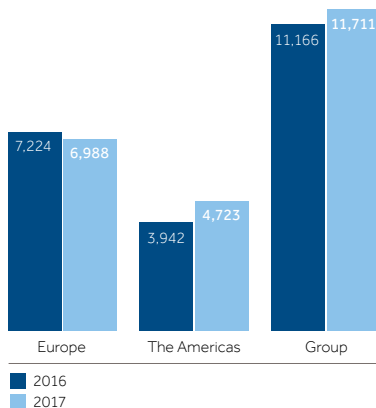
The Smurfit Kappa Foundation supports projects in countries where we operate, focusing on disadvantaged children's health and nutrition, basic care, and early education. Currently, the Foundation supports many such projects in El Salvador, France, Germany, Ireland, Mexico, Netherlands, Spain and the UK.

As a Group, including our Smurfit Kappa Foundation, we donated in 2017 approximately €5 million in cash and in-kind. This was for a wide range of activities, including children's education, health and social inclusiveness projects, and research into areas such as biodiversity.

LOST TIME ACCIDENT SEVERITY RATE
FULL YEAR 2016 vs 2017



DAYS LOST DUE TO ACCIDENTS
FULL YEAR 2016 vs 2017



CASE STORY



Smurfit Kappa Foundation makes outdoors fun accessible for all

Suzanne House is a respite care facility in a working-class suburb of Dublin. It serves terminally ill children with life-limiting conditions – severe to profound intellectual disability and who are also non-mobile. They usually have around 16 children on their books, each of which spends an average of four days at the facility each month. Sadly, client turnover is quite high because of the children's conditions, so a significant number of children use the facility over time. Suzanne House is invaluable in giving temporary relief to hard-pressed parents, who care for the children at home the rest of the time.

The children are very sensitive to their environment, and enjoy sensory stimuli: colours, sounds, light. Unfortunately, the playground at the house garden was not suitable for their high care needs, so the Saint John of God Foundation, the charity that runs Suzanne House, contacted the Smurfit Kappa Foundation to see if we could help.

Jim Fitzharris, one of the Board Directors of the Smurfit Kappa Foundation, says, 'This facility is on a par with the best I have ever seen

– well laid-out and spotlessly clean, with staff providing loving care that goes well beyond the call of duty.' Suzanne House is exactly the kind of project the Smurfit Kappa Foundation funds – one supporting the communities we are based in.

The Foundation donated €63,000 for an all-weather playground with specially adapted equipment which enables the children to enjoy the area, along with their parents, siblings and friends. The playground was officially opened

in March 2018 and has proved to be a great success.

Jim Fitzharris concludes: 'The playground is available all day, is inclusive, and meets the needs of the children with life-limiting conditions. It also means visiting children can also use the equipment, creating an environment of equal fun for all.'

Jim Fitzharris of the Smurfit Kappa Foundation together with users of Suzanne House at the opening of the House playground



People

Health and Safety

Boundary: Health and Safety reporting applies to our own employees. When applicable to subcontracted labour workers this is specifically indicated.

Commitment #1

- Zero fatalities
- Injuries: reduce the lost-time and injury rate by 5% annually for the five year period of 2013-2017
- Provide regular Health and Safety training to employees and sub-contractors
- Promote and ensure safe behaviour of our employees and sub-contractors
- Embed process safety in the way we design, develop and operate all our sites.

Timeframe: Continuous

Progress made: Regrettably, there were two fatal accidents to our own employees at the Elcorr (Netherlands) corrugated plant and at the Forestry operations in Venezuela. The LTA frequency rate decreased by 7% compared to 2016. However, the LTA severity rate increased by 3%. The annual decrease over the five year period 2013-2017 was approximately 9%. In 2018, a new target was set to reduce TRIR by 5% annually.

Our perspective: We believe that a safe and healthy workplace is the fundamental right of every person, and also a business imperative. We are committed to maintaining a productive and safe workplace in every part of our company by minimising the risk of accidents, injuries and exposure to health hazards for all our employees and sub-contractors.

Citizenship

Boundary: All Smurfit Kappa operations both in Europe and the Americas.

Commitment #2

- Strive to offer employees at all levels of the organisation the chance to increase and broaden their skillsets and knowledge, helping them to fulfil their potential and widen their career prospects
- Strive to stimulate and encourage employee engagement by regularly surveying our employees company-wide, and following up appropriately
- Maintain a good faith reporting policy ("Whistle blower Code"), where employees can safely report any unethical or illegal conduct they perceive within the Group
- Support and respect the protection of internationally proclaimed human rights
- Not engage in child labour, and disengage from suppliers that do
- Support freedom of association, and the recognition of the right to collective bargaining
- Not engage in forced and compulsory labour, or employment discrimination on the grounds of ethnicity, race, colour, gender, sexual orientation, age, religion, disability or national origin
- Work against corruption in all its forms, including extortion and bribery.

Timeframe: Continuous

Progress made: Progress in these areas have been discussed in this chapter and the chapter Ethically and Responsibly (pages 26-29).

Our perspective: We believe that everyone at Smurfit Kappa, employees and the employer, is committed to reach our business objectives through expertise, innovation and performance. We want to be recognised as

a great place to work by our current employees and as one of the employers of choice by our prospective employees.

Community involvement

Boundary: The local communities or regions where we are present.

Commitment #3


Smurfit Kappa and our related Foundations aim to contribute to ending the cycle of poverty and dependence that exist in some of the communities and countries in which we operate, by investing in social and research projects.

- Focus on the education of (disadvantaged) youth
- Focus on scientific research on areas related to our business, for example forestry and biodiversity
- Benefit the local communities in which we operate.

Timeframe: Continuous

Progress made: Our management teams in sites throughout the Group and its related foundations have undertaken local community initiatives and supported voluntary work, ranging from charity fundraising and social inclusiveness investments to volunteering activities in local projects and activities. We contributed approximately €5 million in 2017.

Our perspective: We believe that a company can only prosper when it is an integral part of the society it operates in. Therefore, investing in these communities and helping them flourish is important to us, with a particular focus on people who have less opportunity to succeed. By supporting communities in which we have the privilege to operate, we focus their resources to stay vital and flourishing.



To deliver consistently high quality packaging solutions to our customers constant communication between our people during the production process of customers' orders is essential. Pictured are Omar Martinez Gonzalez (left), production manager and Jose Ramon Roman (right), operator at Smurfit Kappa's packaging plant in Alicante (Spain) inspecting quality and progress of the production of a customer's order.

Supporting data



INPUT/OUTPUT 2017

Europe

Input

Wood and fibre

Wood ⁽¹⁾	4,947	ktonnes ar
Market virgin pulp	89	ktonnes ar
Other pulp	23	ktonnes ar
Recovered Paper	4,200	ktonnes ar
Paper or Board purchased	1,665	ktonnes ar
Plastic films, other plastic item (BIB)	24	ktonnes
Starch (all types)	274	ktonnes ar
Inorganic raw materials	228	ktonnes ar
Other organic raw materials	185	ktonnes ar

Energy

Energy from fossil fuels	28,000	TJ
Energy from purchased biofuels	5,060	TJ
Electricity from grid	1,689	GWh

Water

Water intake ⁽²⁾	86	Mm ³
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Notes

(1) Wood and sawmill chips as delivered to the mill

(2) Water intake includes rainwater and waste water from another operation

ktonnes ar: kilotonnes as received

* Partly produced with SKG paper board

The table reports total energy consumption of the site, taking into account the fuels used to produce electricity and/or thermal energy sold externally. This results in different figures for these parameters compared to those on pages 84-86. The latter pages show the energy consumption for the production of the paper or board manufactured.

Output

Production

Papers (All grades)	4,911	ktonnes
Corrugated Packaging *	4,904	ktonnes
Board and laminated Boards *	566	ktonnes
Converted Board *	125	ktonnes
Sacks *	-	ktonnes
Other packaging	23	ktonnes

Direct emissions to air

CO ₂ fossil	1,657	ktonnes
CO ₂ biogenic	3,268	ktonnes
Dust from fuels	0.50	ktonnes
SO _x from processes	0.63	ktonnes
NO _x from processes	3.79	ktonnes

Energy output

Electricity to third party	328	GWh
Thermal energy to third party	258	TJ
Biomass sold	1,401	TJ

Wastes

Hazardous wastes	6.8	ktonnes
Non Hazardous Wastes sent to landfill	212	ktonnes
Non Hazardous wastes recovered	312	ktonnes
Other Non Hazardous wastes	17.3	ktonnes

Discharges to water

Water released	78	Mm ³
COD	23	ktonnes
BOD	9.15	ktonnes
Total Suspended Solids	3.58	ktonnes
N	0.46	ktonnes
P	0.06	ktonnes

INPUT/OUTPUT 2017

The Americas

Input

Wood and fibre

Wood ⁽¹⁾	1,047	ktonnes ar
Market virgin pulp	8.12	ktonnes ar
Other pulp	8.28	ktonnes ar
Recovered Paper	1,424	ktonnes ar
Paper or Board purchased	631	ktonnes ar
Plastic films, other plastic item (BIB)	2.33	ktonnes
Starch (all types)	61	ktonnes ar
Inorganic raw materials	73	ktonnes ar
Other organic raw materials	56	ktonnes ar

Energy

Energy from fossil fuels	16,290	TJ
Energy from purchased biofuels	2,455	TJ
Electricity from grid	860	GWh

Water

Water intake ⁽²⁾	33	Mm ³
-----------------------------	----	-----------------

Notes

(1) Wood and sawmill chips as delivered to the mill

(2) Water intake includes rainwater and waste water from another operation

ktonnes ar: kilotonnes as received

* Partly produced with SKG paper board

The table reports total energy consumption of the site, taking into account the fuels used to produce electricity and/or thermal energy sold externally. This results in different figures for these parameters compared to those on pages 87-88. The latter pages show the energy consumption for the production of the paper or board manufactured.

Output

Production

Papers (All grades)	1,468	ktonnes
Corrugated Packaging *	1,544	ktonnes
Board and laminated Boards *	132	ktonnes
Converted Board *	65	ktonnes
Sacks *	56	ktonnes
Other packaging	2.26	ktonnes

Direct emissions to air

CO ₂ fossil	1,051	ktonnes
CO ₂ biogenic	800	ktonnes
Dust from fuels	0.17	ktonnes
SO _x from processes	1.94	ktonnes
NO _x from processes	1.60	ktonnes

Energy output

Electricity to third party	-	GWh
Thermal energy to third party	-	TJ
Biomass sold	-	TJ

Wastes

Hazardous wastes	1.48	ktonnes
Non Hazardous Wastes sent to landfill	293	ktonnes
Non Hazardous wastes recovered	13.69	ktonnes
Other Non Hazardous wastes	3.83	ktonnes

Discharges to water

Water released	29	Mm ³
COD	17	ktonnes
BOD	5.84	ktonnes
Total Suspended Solids	5.17	ktonnes
N	0.91	ktonnes
P	0.03	ktonnes

Paper and board mills Europe

		Nettingsdorf, Austria	Sangüesa, Spain	Cellulose du Pin, France	Piteå, Sweden	Morava, Czech republic	Wrexen, Germany ⁽⁵⁾	Hoya, Germany	Zülpich, Germany
		kl, bkl, tl	mg paper, tl	bkl, wtkl, wttl	bkl, wtkl	tl, fl	wttl, sb, tl, fl	fl, tl, cart	fl, tl
PRODUCTION	ktonnes	453	79	486	699	66	306	430	494
ENERGY									
Electricity									
Co Generated	GWh	132	59	362 (1)	310	-	65	132	176
Self generated	GWh	-	-	-	-	-	-	-	-
Hydro power	GWh	-	-	-	-	0.8	0.1	-	-
Net Grid supply	GWh	144	83	12	278	22	32	38	16
Total electricity	GWh	275	142	375	589	23	96	169	192
Fuel usage									
Biofuels	TJ	3,667	2,220	8,895	10,261	16	48	73	300
Fossil fuels	TJ	1,046	193	587	117	335	1,468	2,461	3,012
Total fuels	TJ	4,714	2,413	9,481	10,378	350	1,516	2,534	3,312
WATER WITHDRAWAL									
Surface	Mm ³	14.0	4.9	8.9	29.4	0.4	0.5	-	1.7
Ground	Mm ³			0.7		0.0	0.7	2.2	0.4
Grid	Mm ³	0.0	0.0	0.0	0.1	0.0	-	0.2	0.0
Total water	Mm ³	14.2	5.0	9.7	29.9	0.4	1.2	2.4	2.1
DISCHARGES									
To air									
CO ₂ fossil direct	ktonnes	59	13	34	11	19	82	138	236
CO ₂ fossil indirect	ktonnes	22	21	1	3	11	15	18	8
CO ₂ biogenic	ktonnes	406	238	1,063	1,086	1	4	6	30
Dust	tonnes	34.6	5.3	30.7	354.3	0.2	0.0	0.0	0.2
NO _x as NO ₂	tonnes	224	102	705	668	11	38	96	195
SO _x as SO ₂	tonnes	29	57	126	141	2	0	2	68
To water									
Process water	Mm ³	5.13	4.57	9.53	12.32	0.27	0.34	1.84	-
Cooling water	Mm ³	7.65	-	-	17.67	-	0.53	0.05	0.98
COD	tonnes	8,234	230	3,366	1,613	25	95	268	-
BOD	tonnes	4,912	25	954	123	1	6	17	-
Total Suspended Solids	tonnes	745	106	586	315	5	4	39	-
Total N	tonnes	32.1	6.8	84.3	50.9	6.8	0.3	19.1	-
Total P	tonnes	3.0	0.8	11.1	14.4	0.5	0.2	1.7	-
Wastes									
Total Non hazardous wastes	tonnes	22,089	17,520	47,905	38,530	7,563	13,828	34,426	20,824
Landfill	tonnes	3,689	11,847	7,483	1,540	3,988	-	-	8,648
Recovery	tonnes	18,397	5,673	40,394	36,990	3,575	13,828	30,038	12,176
Other	tonnes	3	-	28	-	-	-	4,388	-
Hazardous wastes	tonnes	238	313	1,062	401	1	17	86	360

Notes

(1) CHP partly or totally outsourced

(2) Electricity exported by CHP

(3) Part of Heat exported outside the Group

(4) Total water includes rainwater and waste water from another organisation

(5) Both Hoya and Wrexen consist of two mills on one site, data are aggregated data per site

Water Discharges: In Italic, mills that do not discharge their process water to surface.

	Mengibar, Spain	Alfa D'Avignon, France	Rethel, France	Salliat, France	Ania, Italy	Roermond, the Netherlands	SSK, United Kingdom	Townsend Hook, United Kingdom	Baden Karton, Germany	Herzberger, Germany	Nervión, Spain	Total mills
	fi, t, wttl	tl	tl	fi, tl	fi, tl	fi, tl	fi, tl	fi, tl	cart	sb	sack p, kl	
	228	73	63	256	214	631	213	227	143	262	153	5,476
	103	-	-	39	71	121	61	77 (1)	62	84	126	1,981
	-	0.0	-	-	-	-	-	-	-	-	2.4	2.4
	-	-	-	0.8	-	-	-	-	1.5	1.0	-	4.3
	-(2)	27	23	71	-(2)	43	-(2)	5	-(2)	7	60	861
	103	27	23	112	71	165	61	82	64	92	188	2,849
	55	-	8	48	47	186	45	20	-	-	3,279	29,167
	1,530	372	294	1,409	1,329	2,730	1,306	1,858	1,069	1,732	114	22,961
	1,584	372	302	1,457	1,377	2,916	1,350	1,877	1,069	1,732	3,393	52,128
	1.4	0.6	-	1.9	-	2.0	-	1.1	1.5	4.4	2.7	75.3
	-	-	0.4	-	1.6	-	1.0	-	-	0.0	-	7.0
	0.1	-	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.8
	1.5	0.6	0.4	1.9	1.6	2.2	1.1	1.1	1.5	4.4	2.9	84.3
	86	21	17	79	75	155	74	104	60	97	8	1,368
	-	1	1	3	-	21	0	2	1	3	15	146
	7	1	2	5	3	16	4	7	-	-	341	3,222
	0.9	0.5	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.3	66.3	493.7
	509	35	19	74	37	130	121	404	23	36	272	3,698
	79	9	3	2	3	16	1	7	0	10	36	593
	1.23	0.48	0.36	1.72	1.25	1.48	0.94	0.87	1.19	1.33	2.16	46.99
	-	-	-	-	-	-	-	-	0.12	2.89	-	29.90
	304	25	22	149	121	273	4,035	116	90	167	2,018	21,150
	13	2	1	4	12	17	1,933	5	6	12	481	8,524
	64	2	4	51	15	44	944	35	14	24	195	3,192
	41.7	4.6	3.7	31.9	9.3	30.4	81.0	17.7	2.3	2.3	4.1	429.3
	1.1	1.2	0.5	1.8	1.1	2.5	16.6	1.1	0.3	0.6	0.2	58.8
	24,611	4,838	1,556	18,043	21,694	40,291	23,947	33,115	14,189	26,937	82,313	494,218
	24,461	1,703	992	16,246	7,234	5,303	10,853	24,334	-	-	77,957	206,278
	150	3,135	564	1,798	14,460	34,842	13,078	8,781	14,189	26,937	4,357	283,361
	-	-	-	-	-	145	14	-	-	-	-	4,579
	20	21	14	7	32	30	21	39	27	18	36	2,744

bkl: Brown Kraftliner
 cart: Carton board
 fi: Recycled Fluting
 kl: Kraftliner
 mg paper: Machine glazed paper

N/A: Not available
 sack p: Sack Paper
 sb: Solid Board
 tl: Testliner
 wtkl: White Top Kraftliner

wttl: White Top Testliner

Operations total Europe

		Paper & board mills	Integrated corrugated operations	Other packaging operations	Other operations	Total operations
PRODUCTION	ktonnes	5,476	4,587	465	2,650	
ENERGY						
Electricity						
Co-Generated	GWh	1,981	-	-	-	1,981
Self-generated	GWh	2	-	-	-	2
Hydro power	GWh	4	-	-	-	4
Net Grid supply	GWh	861	533	92	4	1,489
Total electricity	GWh	2,849	533	92	4	3,478
Fuel usage						
Biofuels	TJ	29,167	139	1	-	29,306
Fossil fuels	TJ	22,961	4,126	152	81	27,320
Total fuels	TJ	52,128	4,265	153	81	56,627
WATER WITHDRAWAL						
Surface	Mm ³	75.3	0.0			75.3
Ground	Mm ³	7.0	0.3	0.0		7.3
Grid	Mm ³	0.8	1.3	0.1	0.0	2.2
Total water ⁽¹⁾	Mm ³	84.3	1.7	0.1	0.0	86.1
DISCHARGES						
To air						
CO ₂ fossil direct	ktonnes	1,368	235	9	6	1,618
CO ₂ fossil indirect	ktonnes	146	166	30	1	344
CO ₂ biogenic	ktonnes	3,222	15	0	-	3,237
Dust	tonnes	494	3	0	0	497
NO _x as NO ₂	tonnes	3,698	82	3	4	3,787
SO _x as SO ₂	tonnes	593	36	1	4	633
To water						
Process water	Mm ³	47.0	0.6	0.0	-	47.7
Cooling water	Mm ³	29.9	0.1	0.0	0.0	30.0
COD ⁽²⁾	tonnes	21,150	2,065			23,215
BOD ⁽²⁾	tonnes	8,524	626			9,149
Total Suspended Solids ⁽²⁾	tonnes	3,192	393			3,585
Total N ⁽²⁾	tonnes	429	33			462
Total P ⁽²⁾	tonnes	59	1			60
WASTES						
Total Non hazardous wastes	tonnes	494,218	31,660	7,863	7,136	540,876
Landfill	tonnes	206,278	4,351	569	466	211,663
Recovery	tonnes	283,361	15,083	6,921	6,529	311,893
Other	tonnes	4,579	12,214	374	141	17,307
Hazardous wastes	tonnes	2,744	3,575	438	2	6,759

Notes

(1) Total Water includes rainwater and waste water from another organisation

(2) Sum of available data (for mills details are reported in individual tables).

ENVIRONMENTAL DATA 2017

Paper and board mills the Americas

		Bernal, Argentina fi, tl	Coronel Suárez, Argentina fi, tl	Bento, Brazil fi	Pirapetinga, Brazil fi, t, wttl	Uberaba, Brazil fi, tl	Cali, Colombia p&w, sack p; bkl, cart, sc fi, tl, pulp, wtkl	Barranquilla, Colombia fi, tl	Barbosa, Colombia fi, tl	Los Reyes, Mexico fi, tl, cart	Cerro Gordo, Mexico fi, tl, cart	Monterrey, Mexico fi, tl	Caracas, Venezuela tl, cart	Valencia, Venezuela cart	San Felipe, Venezuela sc fi, bkl	Forney, USA fi, tl	Total mills
PRODUCTION	ktonnes	64	42	47	132	51	268	64	76	81	318	33	8	19	76	318	1,599
ENERGY																	
Electricity																	
Co Generated	GWh	-	-	-	-	-	220	29	39	-	-	-	-	24	88	33	432
Self generated	GWh	-	-	-	-	-	-	-	-	-	-	-	-	5.3	7.1	-	12.4
Hydro power	GWh	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Grid supply	GWh	29	14	18	63	30	108	10	2	49	162	19	5	4	13	111	638
Total electricity	GWh	29	14	18	63	30	328	39	40	49	162	19	5	34	108	144	1,082
Fuel usage																	
Biofuels	TJ	-	-	301	1,070	518	4,454	-	-	-	-	-	-	-	753	541	7,636
Fossil fuels	TJ	334	228	3	34	6	5,259	625	601	553	1,404	278	123	984	2,957	1,232	14,619
Total fuels	TJ	334	228	304	1,103	524	9,712	625	601	553	1,404	278	123	984	3,710	1,773	22,254
WATER WITHDRAWAL																	
Surface	Mm ³	0.1	-	0.1	1.4	0.3	21.7	1.2	0.7	-	-	-	0.1	-	-	-	25.6
Ground	Mm ³	0.6	0.2	-	0.0	0.1	0.2	-	-	0.4	1.6	0.1	-	0.2	1.7	-	5.1
Grid	Mm ³	-	-	0.0	0.0	-	-	0.0	-	-	-	0.1	0.2	0.1	-	1.1	1.5
Total water ⁽¹⁾	Mm ³	0.7	0.2	0.1	1.5	0.4	21.9	1.2	0.7	0.5	1.6	0.2	0.3	0.3	1.7	1.1	32.5
DISCHARGES																	
To air																	
CO ₂ fossil direct	ktonnes	19	13	0	2	0	411	35	39	31	79	16	7	55	170	69	947
CO ₂ fossil indirect	ktonnes	12	6	3	10	5	20	2	0	22	74	9	1	1	3	54	222
CO ₂ biogenic	ktonnes	1	-	36	111	52	405	-	-	-	-	0	-	-	111	59	777
Dust	tonnes	0.0	0.0	43.0	40.8	29.6	25.8	3.8	1.9	0.0	4.7	0.0	0.0	0.0	10.5	4.2	164.2
NO _x as NO ₂	tonnes	18	11	35	76	47	849	40	31	21	49	8	4	60	247	59	1,554
SO _x as SO ₂	tonnes	5	0	0	6	0	1,794	0	55	0	1	1	0	0	8	11	1,880
To water																	
Process water	Mm ³	0.48	0.13	-	1.22	0.30	21.65	1.05	0.63	0.30	0.95	0.10	0.29	0.22	0.69	0.58	28.61
Cooling water	Mm ³	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16
COD	tonnes	43	30	-	1,387	1,006	7,108	2,701	2,709	41	665	33	231	69	459	674	17,156
BOD	tonnes	18	4	-	613	439	1,975	1,211	1,150	3	13	5	148	8	43	186	5,816
Total Suspended Solids	tonnes	7	10	-	133	100	2,114	1,729	437	2	146	9	333	12	65	67	5,165
Total N	tonnes	4.2	1.7	-	10.9	1.6	787.7	50.6	11.6	1.0	6.1	1.0	2.9	1.4	6.2	24.5	911.4
Total P	tonnes	0.2	0.1	-	1.4	0.8	19.0	0.8	1.0	0.5	2.5	0.2	0.3	0.1	0.5	2.3	29.8
Wastes																	
Total Non hazardous wastes	tonnes	6,242	2,606	5,002	23,330	7,887	115,930	2,345	5,624	15,861	41,157	1,445	530	8,284	5,767	40,842	282,850
Landfill	tonnes	6,202	2,561	3,990	22,443	7,730	113,035	2,306	4,461	15,216	38,896	1,352	517	8,220	3,742	40,719	271,391
Recovery	tonnes	40	45	1,012	887	157	1,341	39	1,163	645	2,261	93	13	64	54	123	7,934
Other	tonnes	-	-	-	-	-	1,554	-	-	-	-	-	-	-	1,971	-	3,525
Hazardous wastes	tonnes	71	15	19	18	6	119	16	12	19	18	5	4	12	14	0	348

bkl: Brown Kraftliner

pulp: Virgin Pulp sold externally

wtkl: White Top Kraftliner

cart: Carton board

sack p: Sack Paper

wttl: White Top Testliner

fi: Recycled Fluting

sc fi: Semi-chemical Fluting

p&w: Printing and writing grade

tl: Testliner

Notes

(1) Total water includes rainwater and waste water from another organisation

Water Discharges: In *Italic*, mills that do not discharge their process water to surface.

Operations total the Americas

		PAPER & BOARD MILLS	OTHER OPERATIONS	TOTAL OPERATIONS
PRODUCTION	ktonnes	1,599	3,620	
ENERGY				
Electricity				
Co-Generated	GWh	432	-	432
Self-generated	GWh	12	1	13
Hydro power	GWh	-	-	-
Net Grid supply	GWh	638	217	855
Total electricity	GWh	1,082	218	1,300
Fuel usage				
Biofuels	TJ	7,636	215	7,851
Fossil fuels	TJ	14,619	1,672	16,290
Total fuels	TJ	22,254	1,887	24,141
WATER WITHDRAWAL				
Surface	Mm ³	25.6	0.0	25.7
Ground	Mm ³	5.1	0.3	5.4
Grid	Mm ³	1.5	0.5	2.0
Total water ⁽¹⁾	Mm ³	32.5	0.9	33.3
DISCHARGES				
To air				
CO ₂ fossil direct	ktonnes	947	104	1,051
CO ₂ fossil indirect	ktonnes	222	82	304
CO ₂ biogenic	ktonnes	777	23	800
Dust	tonnes	164	4	169
NO _x as NO ₂	tonnes	1,554	43	1,597
SO _x as SO ₂	tonnes	1,880	56	1,936
To water				
Process water	Mm ³	28.6	0.2	28.8
Cooling water	Mm ³	0.16	-	0.16
COD ⁽²⁾	tonnes	17,156	53	17,209
BOD ⁽²⁾	tonnes	5,816	22	5,838
Total Suspended Solids ⁽²⁾	tonnes	5,165	7	5,171
Total N ⁽²⁾	tonnes	911.4	1.0	912.5
Total P ⁽²⁾	tonnes	29.8	0.1	29.9
Wastes				
Total Non hazardous wastes	tonnes	282,850	27,511	310,361
Landfill	tonnes	271,391	21,454	292,845
Recovery	tonnes	7,934	5,755	13,689
Other	tonnes	3,525	301	3,826
Hazardous wastes	tonnes	348	1,132	1,479

Notes

(1) Total Water includes rainwater and waste water from another organisation

(2) Sum of available data (for mills details are reported in individual tables).

ENVIRONMENTAL DATA 2017

Total Group operations

		All operations							
		2017	2016	2015	2014	2013	2012	2011	2010
ENERGY									
Electricity									
Co-Generated ⁽¹⁾	GWh	2,413	2,297	2,239	2,308	2,350	2,405	2,400	2,250
Self-generated	GWh	15	33	26	44	33	-	-	-
Hydro power	GWh	4	5	6	6	7	5	5	8
Grid supply	GWh	2,344	2,422	2,379	2,333	2,330	2,081	2,049	2,321
Total electricity	GWh	4,778	4,757	4,651	4,692	4,720	4,491	4,456	4,580
Fuel usage									
Biofuels	TJ	37,157	36,013	35,232	34,545	34,461	31,936	33,102	32,769
Fossil fuels	TJ	43,611	43,783	42,700	43,320	43,868	44,723	46,202	46,631
Total fuels	TJ	80,768	79,796	77,931	77,865	78,329	76,659	79,304	79,400
WATER WITHDRAWAL									
Surface	Mm ³	101	102	101	101	106	104	103	109
Ground	Mm ³	13	14	14	16	15	16	15	15
Grid	Mm ³	4	4	4	3	3	3	3	3
Total water ⁽²⁾	Mm ³	119	121	120	121	125	126	122	127
DISCHARGES									
To air									
CO ₂ fossil direct	ktonnes	2,670	2,683	2,607	2,647	2,681	2,775	2,860	2,861
CO ₂ fossil indirect	ktonnes	647	691	678	659	683	584	572	661
CO ₂ biogenic	ktonnes	4,038	3,936	3,764	3,698	3,716	3,622	3,606	3,517
Dust	tonnes	666	590	442	562	561	665	699	772
NO _x as NO ₂	tonnes	5,385	5,313	5,239	4,887	4,367	4,688	4,767	5,595
SO _x as SO ₂	tonnes	2,569	3,034	2,951	2,728	2,411	3,334	3,893	3,691
To water									
Process water	Mm ³	76	77	79	80	81	79	78	82
Cooling water	Mm ³	30	34	32	33	34	34	32	33
COD ⁽³⁾	tonnes	40,425	41,794	37,690	39,116	38,188	35,665	36,278	35,024
BOD ⁽³⁾	tonnes	14,988	14,326	14,072	12,100	12,253	11,473	11,638	11,404
Total Suspended Solids ⁽³⁾	tonnes	8,756	8,596	9,205	9,840	9,526	7,752	8,504	8,033
Total N ⁽³⁾	tonnes	1,374	983	877	796	888	711	643	653
Total P ⁽³⁾	tonnes	89	126	139	114	86	91	97	109
Wastes									
Total Non hazardous wastes	tonnes	851,238	847,521	825,844	837,024	906,950	919,084	906,389	888,775
Landfill	tonnes	504,523	487,186	450,914	444,812	512,287	565,346	525,854	453,240
Recovery	tonnes	325,582	347,328	367,754	365,411	363,976	322,712	329,880	377,493
Other	tonnes	21,133	13,007	7,175	26,801	30,686	31,026	50,655	58,043
Hazardous wastes	tonnes	8,239	6,826	7,112	8,767	9,523	12,813	10,717	12,448

Notes

(1) For years 2011 and 2012 electricity co-generated and self-generated

(2) Total water includes rainwater and waste water from another organisation

(3) Sum of available data (for mills details are reported in individual tables)

For 2016, we have obtained data from the Brazil mills for Q4 only for water intake, water discharges and wastes. This data has been multiplied by four for this report.

Management system certifications

Forestry, wood sourcing and mills

		Quality management system	Environmental management system	Health and Safety system	Hygiene management for foodstuffs packaging		Energy management system	Chain of Custody		
		ISO 9001	ISO 14001	OHSAS 18001	EN 15593	FSSC 22000	ISO 50001	FSC	PEFC	SFI
EU										
Wood Sourcing										
ES	Central Forestal			●				●	●	
FR	Comptoir du Pin Aquitaine			●				●	●	
Virgin mills										
AT	Nettingsdorf	●	●	●	●			●	●	
ES	Nervión	●	●	●	●		●	●	●	
	Sangüesa	●	●	●	●			●	●	
FR	Cellulose du Pin	●	●	●	●			●	●	
SE	Piteå	●	●	●		●	●	●	●	
Recycled mills										
CZ	Morava	●	●	●	●		●	●	●	
ES	Mengibar	●	●	●	●			●	●	
FR	Alfa D'Avignon	●	●		●			●	●	
	Rethel	●	●		●			●	●	
	Saillat	●	●	●	●		●	●	●	
DE	Badenkarton	●	●	●	●		●	●	●	
	Hoya ⁽¹⁾	●	●	●	●		●	●	●	
	Herzberger	●	●	●	●		●	●	●	
	Wrexen ⁽¹⁾	●	●	●	●		●	●	●	
	Zülpich	●	●	●	●		●	●	●	
IT	Ania	●	●	●	●			●	●	
NL	Roermond	●	●	●	●		●	●	●	
UK	SSK	●	●	●	●		●	●	●	
	Townsend Hook	●	●	●	●		●	●	●	
The Americas										
Forestry										
CO	Colombian Forest							●		
VE	Venezuela Forest							●		
Virgin mills										
CO	Cali		●					●		
VE	San Felipe		●					●		
Recycled mills										
AR	Bernal		●					●		
	Coronel Suárez		●					●		
BR	Bento							●		
	Pirapetinga	●						●		
	Uberaba	●						●		
CO	Barbosa		●					●		
	Barranquilla		●					●		
ME	Cerro Gordo	●	●					●		
	Los Reyes	●	●					●		
	Monterrey	●	●					●		
USA	Forney		●					●	●	●
VE	Caracas		●					●		
	Valencia	●	●					●		

Note

(1) Both Hoya and Wrexen consist of two mills on one site. Certifications cover both operational units.

Social data

	2017	2016	2015	2014	2013	2012
Social citizenship (FTE)						
Total number of employees ⁽¹⁾	46,418	45,314	44,599	41,816	40,654	37,757
of whom female (%) ⁽²⁾	19%	18%	17%	17%	17%	16%
Employees leaving the company ⁽³⁾	1,666	1,687	1,971	1,675	1,598	1,596
of whom resignation and retirement (%)	74%	64%	62%	62%	59%	53%
Employees joining the company ⁽³⁾	2,318	2,054	2,217	1,826	1,743	1,890
Age distribution (%)						
<20 years	1%	1%	1%	1%	1%	1%
21-30 years	17%	17%	17%	16%	16%	16%
31-40 years	25%	25%	25%	25%	26%	26%
41-50 years	29%	29%	30%	31%	31%	32%
51-60 years	24%	24%	23%	23%	22%	22%
>60 years	4%	4%	4%	4%	4%	3%
Employees turnover (%) ⁽³⁾	4.0%	4.1%	4.9%	4.4%	4.3%	4.7%
Length of service, above 11 years (%)	49%	50%	50%	51%	52%	54%
Female in management (%)	20%	19%	17%	17%	16%	16%
Health and safety						
Lost time accidents (LTA)	327	352	364	414	405	440
Contractor lost time accidents (CLTA)	30	45	62	227	na	na
Days lost due to accidents (DLA)	11,711	11,166	9,924	11,460	10,211	10,362
Accident severity rate (ASR) (%)	13.88%	13.43%	13.00%	15.00%	14.00%	15.00%
Frequency rate (FR)	0.39	0.42	0.47	0.55	0.55	0.65
Fatalities						
Own employees	2	1	0	0	1	0
(Sub)contractors	0	1	1	1	1	2
Sourcing data						
Number of audits						
Strategic suppliers	9	20	26	22	23	26
Important suppliers	15	7	23	21	31	9
Satisfactory scores						
Strategic suppliers	6	19	21	19	22	26
Important suppliers	14	4	18	18	28	8

Notes

(1) Based on full-time equivalent number of employees and contractors

(2) Based on Smurfit Kappa employees only (excluding contractors)

(3) This data has been derived from the Hyperion Financial Management data system (HFM). Most of the countries in the Americas region have not yet registered the information in this indicator in HFM. We aim at having this information about joiners and leavers for all countries included in near future.

Supplementary information





A major rebuild of the paper machine in our mill in Barbosa (Colombia) increased production capacity by over 50% and together with a new CHP installation energy efficiency was increased with relative fossil CO₂ emissions decreasing by 14%. Pictured is the proud team of Barbosa and the technical team of Colombia that realised the rebuild.

ABOUT THIS REPORT

The information in this report covers the international activities of the Smurfit Kappa Group for the calendar year 2017 and also includes some information for early 2018, where mentioned specifically. In this report, we cover the business, environmental and social activities at our own operations, as well as our approach to sourcing, and how we support our customers' sustainability targets.

The report also describes Smurfit Kappa's vision and approach to sustainability.

As of the date of this report, our operations comprised approximately 370 facilities in 35 countries across Europe and the Americas. This report includes information from all these operations apart from the two corrugated plants acquired in 2017 (see below). For these companies, 2017 data is only included when specifically mentioned in the relevant section of the report.

Employee demographics covers our own employees. Contract labour is only included if specifically indicated.

Acquisitions, divestitures and closures 2017

During 2017, Smurfit Kappa acquired two corrugated plants, one in Russia (Soyuz) and one in Greece (Chatziioannou). We also acquired certain assets and the business of a bag-in-box company in Portugal (Litbag) and incorporated them into our existing operation in Spain.

In 2017, we opened recovered fibre depots in Spain (Malaga) and Puerto Rico (Ponce) and closed depots in Puerto Rico (San Juan and Mayaguez) and in Venezuela (San Cristobel).

Environmental data on the acquired and closed sites is not included in the 2017 data presented in this report. The acquisitions and closures do not significantly impact our targets, which are being measured on specific volume performance.

The acquisition of the three paper mills in Brazil at the end of 2015 has a significant impact on the baseline of targets measured on specific volume

performance. We have added their data to the 2005 baseline for CO₂ emissions, as well as the 2013 baseline for waste sent to landfill. However, because the sites have not been measuring their COD emissions according to the Group standard, we have omitted them from the 2005 baseline and current reporting against the COD target.

Smurfit Kappa applies a two-year integration policy to the acquired operations. The new operations have to obtain certified management systems required by the Group within this period. The operations start to report about their management systems immediately after obtaining the certificate, issued by a third-party. This has the greatest effect on the certified Chain of Custody related reporting.

Apart from the impact on the baseline and reporting of the COD data of the mills acquired in Brazil, no significant changes in the scope, boundary and measurement methods were applied to the report compared to previous years.

The reporting of employee and health and safety data reflects the situation at the end of 2017.

Topics, issues and targets

Smurfit Kappa fully recognises that sustainable development embraces social and business issues as well as environmental ones. These issues have been selected on the basis of input from various stakeholder groups. Smurfit Kappa collected data from all the manufacturing operations that were operational at the end of 2017 with the exception of Soyuz and Chatziioannou.

Our targets are measured against produced tonnes of paper rather than absolute values, as the company is in dynamic growth and also subject to opening and closing facilities. Other information is reported in absolute figures, unless otherwise stated.

Reporting guidelines, data collection

Among the various references used for the development and identification of baseline data included in this report are the G4 Sustainability Reporting

Guidelines issued by the Global Reporting Initiative (GRI). GRI is an international independent organisation that helps businesses, governments and other organisations understand and communicate the impact of business on critical sustainability issues such as climate change, human rights, corruption, and many others.

Every effort has been made to provide data that is as accurate as possible. Data relating to environmental factors is gathered through a Group-wide IT-based reporting system implemented in all Smurfit Kappa operations.

This tool is integrated into the Group's intranet, enabling sites to report their environmental data online according to GRI guidelines. As the information is stored centrally, this allows for easier and faster processing.

We work continually to increase our data quality. This includes improving the user friendliness of our data collection, and developing mill individual reporting protocols; a project completed in 2015.

For the most part, data is based on measured or metred quantities, or on best estimates based on industry knowledge and established calculation factors. CO₂ emission calculations have been based on established fuel consumption and specific CO₂ emission factors. Definitions and calculations for the performance indicators can be found in the glossary on pages 107-111.

Ongoing initiatives continue to further standardise our data gathering system, improving data quality and consistency in the use of Group definitions, and the scope requirements of our key indicators.

We appointed an external assurance provider, KPMG, to provide limited assurance on the data and the text of the report. KPMG's assurance report can be found on page 112.

GRI-INDEX

GRI-4	Description	Source/Comment	Page(s)
Strategy and Analysis			
1	Statement from the most senior decision-maker of the organisation (such as CEO, chair, or equivalent senior position) about the relevance of sustainability to the organisation and the organisation's strategy for addressing sustainability	SDR	6-7
2	Description of key impacts, risks, and opportunities		34-79
Organisational profile			
3	Name of the organisation	SDR	Cover
4	Primary brands, products, and/or services	SDR	3
5	Location of organisation's headquarters	SDR	Back cover
6	Report the number of countries where the organisation operates, and names of countries where either the organisation has significant operations or that are specifically relevant to the sustainability topics covered in the report	SDR AR	2-3 8-9
7	Nature of ownership and legal form	AR	67-101
8	Markets served	Website	
9	Report the scale of the organisation, including: Total number of employees Total number of operations Net sales (for private sector organisations) or net revenues (for public sector organisations) Total capitalisation broken down in terms of debt and equity (for private sector organisations) Quantity of products or services provided	SDR AR	2-3 4-9
10	a. Report the total number of employees by employment contract and gender b. Report the total number of permanent employees by employment type and gender c. Report the total workforce by employees and supervised workers and by gender d. Report the total workforce by region and gender e. Report whether a substantial portion of the organisation's work is performed by workers who are legally recognised as self-employed, or by individuals other than employees or supervised workers, including employees and supervised employees of contractors f. Report any significant variations in employment numbers (such as seasonal variations in employment in the tourism or agricultural industries)	SDR	66-67, 91
11	Report the percentage of total employees covered by collective bargaining agreements	SDR	68
12	Describe the organisation's supply chain	SDR	16, 28-29, 36, 38-39
13	Report any significant changes during the reporting period regarding the organisation's size, structure, ownership, or its supply chain, including: Changes in the location of, or changes in, operations, including facility openings, closings, and expansions Changes in the share capital structure and other capital formation, maintenance, and alteration operations (for private sector organisations) Changes in the location of suppliers, the structure of the supply chain, or in relationships with suppliers, including selection and termination	SDR AR	94 157
14	Report whether and how the precautionary approach or principle is addressed by the organisation	AR	72, 159
15	List externally developed economic, environmental and social charters, principles, or other initiatives to which the organisation subscribes or which it endorses	SDR	26-28
16	List memberships of associations (such as industry associations) and national or international advocacy organisations in which the organisation: Holds a position on the governance body Participates in projects or committees Provides substantive funding beyond routine membership dues Views membership as strategic This refers primarily to memberships maintained at the organisational level	SDR	27

GRI-INDEX

GRI-4	Description	Source/Comment	Page(s)
17	<p>a. List all entities included in the organisation's consolidated financial statements or equivalent documents</p> <p>b. Report whether any entity included in the organisation's consolidated financial statements or equivalent documents is not covered by the report</p> <p>The organisation can report on this Standard Disclosure by referencing the information in publicly available consolidated financial statements or equivalent documents</p>	SDR AR	94 173
18	<p>a. Explain the process for defining the report content and the Aspect Boundaries</p> <p>b. Explain how the organisation has implemented the Reporting Principles for Defining Report Content</p>	SDR	32-33
19	a. List all the material Aspects identified in the process for defining report content	SDR	32-33
20	<p>a. For each material Aspect, report the Aspect Boundary within the organisation, as follows: Report whether the Aspect is material within the organisation. If the Aspect is not material for all entities within the organisation (as described in G4-17), select one of the following two approaches and report either:</p> <ul style="list-style-type: none"> - The list of entities or groups of entities included in G4-17 for which the Aspect is not material or - The list of entities or groups of entities included in G4-17 for which the Aspect is material <p>Report any specific limitation regarding the Aspect Boundary within the organisation</p>	SDR	41, 49, 55, 63, 79
21	<p>a. For each material Aspect, report the Aspect Boundary outside the organisation, as follows: Report whether the Aspect is material outside of the organisation. If the Aspect is material outside of the organisation, identify the entities, groups of entities or elements for which the Aspect is material. In addition, describe the geographical location where the Aspect is material for the entities identified Report any specific limitation regarding the Aspect Boundary outside the organisation</p>	SDR	32-33, 41, 49, 55, 63, 79
22	a. Report the effect of any restatements of information provided in previous reports, and the reasons for such restatements	SDR	94
23	Report significant changes from previous reporting periods in the Scope and Aspect Boundaries	SDR	94
24	Provide a list of stakeholder groups engaged by the organisation	SDR	22-23
25	Report the basis for identification and selection of stakeholders with whom to engage	SDR	21
26	Report the organisation's approach to stakeholder engagement, including frequency of engagement by type and by stakeholder group, and an indication of whether any of the engagement was undertaken specifically as part of the report preparation process	SDR	21-23
27	Report key topics and concerns that have been raised through stakeholder engagement, and how the organisation has responded to those key topics and concerns, including through its reporting. Report the stakeholder groups that raised each of the key topics and concerns	SDR	21-23, 34-36, 42-43, 52, 57, 59, 64
Report profile			
28	Reporting period (e.g. fiscal/calendar year) for information provided	SDR	94
29	Date of most recent previous report (if any)	SDR/ 18 May 2017	
30	Reporting cycle (annual, biennial, etc.)	SDR Annual	94
31	Contact point for questions regarding the report or its contents	SDR	Back cover
32	Report the 'in accordance' option the organisation has chosen	SDR	94
33	<p>a. Report the organisation's policy and current practice with regard to seeking external assurance for the report</p> <p>b. If not included in the assurance report accompanying the sustainability report, report the scope and basis of any external assurance provided</p> <p>c. Report the relationship between the organisation and the assurance providers</p> <p>d. Report whether the highest governance body or senior executives are involved in seeking assurance for the organisation's sustainability report</p>	SDR	94
34	Report the governance structure of the organisation	AR	67-101

GRI-4	Description	Source/Comment	Page(s)
35	Report the process for delegating authority for economic, environmental and social topics from the highest governance body to senior executives and other employees	SDR	26-27
36	Report whether the organisation has appointed an executive-level position or positions with responsibility for economic, environmental and social topics, and whether postholders report directly to the highest governance body	SDR	26
37	Report processes for consultation between stakeholders and the highest governance body on economic, environmental and social topics. If consultation is delegated, describe to whom and any feedback processes to the highest governance body	SDR	21-23
38	Report the composition of the highest governance body and its committees by: Executive or non-executive/ Independence/Tenure on the governance body/Number of each individual's other significant positions and commitments, and the nature of the commitments/Gender/ Membership of under-represented social groups/Competences relating to economic, environmental and social impacts/Stakeholder representation	AR	67-101
39	Report whether the Chair of the highest governance body is also an executive officer	AR	68
40	Report the nomination and selection processes for the highest governance body and its committees, and the criteria used for nominating and selecting highest governance body members, including: Whether and how diversity is considered Whether and how independence is considered Whether and how expertise and experience related to economic, environmental and social topics are considered Whether and how stakeholders (including shareholders) are involved	AR	67-101
41	Report processes for the highest governance body to ensure conflicts of interest are avoided and managed Report whether conflicts of interest are disclosed to stakeholders, including, as a minimum: Cross-board membership/Cross-shareholding with suppliers and other stakeholders/Existence of controlling shareholder/Related party disclosures	AR	72-73
42	Report the highest governance body's and senior executives' roles in the development, approval and updating of the organisation's purpose, value or mission statements, strategies, policies, and goals related to economic, environmental and social impacts	AR	67-101
43	Report the measures taken to develop and enhance the highest governance body's collective knowledge of economic, environmental and social topics	AR	74
44	a. Report the processes for evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics. Report whether such evaluation is independent or not, and its frequency. Report whether such evaluation is a self-assessment b. Report actions taken in response to evaluation of the highest governance body's performance with respect to governance of economic, environmental and social topics, including, as a minimum, changes in membership and organisational practice	AR	75
45	a. Report the highest governance body's role in the identification and management of economic, environmental and social impacts, risks, and opportunities. Include the highest governance body's role in the implementation of due diligence processes b. Report whether stakeholder consultation is used to support the highest governance body's identification and management of economic, environmental and social impacts, risks, and opportunities	SDR	26-27
46	Report the highest governance body's role in reviewing the effectiveness of the organisation's risk management processes for economic, environmental and social topics	AR	60-64
47	Report the frequency of the highest governance body's review of economic, environmental and social impacts, risks and opportunities	AR	72-77
48	Report the highest committee or position that formally reviews and approves the organisation's sustainability report and ensures that all material Aspects are covered.	SDR AR Website	26 72
49	Report the process for communicating critical concerns to the highest governance body	SDR AR	26 72-77

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GRI-4	Description	Source/Comment	Page(s)
50	Report the nature and total number of critical concerns that were communicated to the highest governance body and the mechanism(s) used to address and resolve them	SDR	26-27
51	a. Report the remuneration policies for the highest governance body and senior executives for the below types of remuneration: Fixed pay and variable pay; Performance-based pay/ Equity-based pay/ Bonuses/ Deferred or vested shares Sign-on bonuses or recruitment incentive payments Termination payments Clawbacks Retirement benefits, including the difference between benefit schemes and contribution rates for the highest governance body, senior executives, and all other employees b. Report how performance criteria in the remuneration policy relate to the highest governance body's and senior executives' economic, environmental and social objectives	AR	84-99
52	Report the process for determining remuneration. Report whether remuneration consultants are involved in determining remuneration and whether they are independent of management. Report any other relationships which the remuneration consultants have with the organisation	AR	84-99
53	Report how stakeholders' views are sought and taken into account regarding remuneration, including the results of votes on remuneration policies and proposals, if applicable	AR	84
54	Report the ratio of the annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median annual total compensation for all employees (excluding the highest-paid individual) in the same country	AR	92-99
55	Report the ratio of percentage increase in annual total compensation for the organisation's highest-paid individual in each country of significant operations to the median percentage increase in annual total compensation for all employees (excluding the highest-paid individual) in the same country	AR	95
56	Describe the organisation's values, principles, standards and norms of behaviour such as codes of conduct and codes of ethics	SDR AR	26-27 75-76
57	Report the internal and external mechanisms for seeking advice on ethical and lawful behaviour, and matters related to organisational integrity, such as helplines or advice lines	SDR Website: Whistleblower policy	26-27
58	Report the internal and external mechanisms for reporting concerns about unethical or unlawful behaviour, and matters related to organisational integrity, such as escalation through line management, whistleblowing mechanisms or hotlines	SDR Website: Whistleblower policy	26-27
DMA	a. Report why the Aspect is material. Report the impacts that make this Aspect material b. Report how the organisation manages the material Aspect or its impacts c. Report the evaluation of the management approach, including: The mechanisms for evaluating the effectiveness of the management approach The results of the evaluation of the management approach Any related adjustments to the management approach	SDR AR	28-29 105
Economic indicators			
EC1	Direct economic value generated and distributed	AR	4-5, 112-119
EC2	Financial implications and other risks and opportunities for the organisation's activities due to climate change	SDR CDP 2017 Climate Change	42-43, 46, 48 Module: risks and opportunities
EC3	Coverage of the organisation's defined benefit plan obligations	AR	150: Note 25
EC4	Financial assistance received from government a. Report the total monetary value of financial assistance received by the organisation from governments during the reporting period, including, as a minimum: Tax relief and tax credits/ Subsidies/ Investment grants, research and development grants, and other relevant types of grants/ Awards/ Royalty holidays/Financial assistance from Export Credit Agencies (ECAs)/Financial incentives/Other financial benefits received or receivable from any government for any operation b. Report the information above by country c. Report whether, and the extent to which, the government is present in the shareholding structure	AR	121-128

GRI-4	Description	Source/Comment	Page(s)
EC5	Ratios of standard entry level wage by gender compared to local minimum wage at significant locations of operations a. When a significant proportion of the workforce is compensated based on wages subject to minimum wage rules, report the ratio of the entry level wage by gender at significant locations of operation to the minimum wage b. Report whether a local minimum wage is absent or variable at significant locations of operation, by gender. In circumstances in which different minimums could be used as a reference, report which minimum wage is being used c. Report the definition used for 'significant locations of operation'	SDR	73, 76
EC6	Proportion of senior management hired from local community at significant locations of operation a. Report the percentage of senior management at significant locations of operation that are hired from the local community b. Report the definition of 'senior management' used c. Report the organisation's geographical definition of 'local' d. Report the definition used for 'significant locations of operation'	SDR	60-61
EC7	Development and impact of infrastructure investments and services supported a. Report the extent of development of significant infrastructure investments and services supported b. Report the current or expected impacts on communities and local economies. Report positive and negative impacts where relevant c. Report whether these investments and services are commercial, in-kind, or pro bono engagements	SDR AR	45-46, 52 118-119, 158
EC8	Significant indirect economic impacts, including the extent of impacts a. Report examples of the significant identified positive and negative indirect economic impacts the organisation has. These may include: Changing the productivity of organisations, sectors, or the whole economy/Economic development in areas of high poverty/Economic impact of improving or deteriorating social or environmental conditions/Availability of products and services for those on low incomes/Enhancing skills and knowledge amongst a professional community or in a geographical region/ Jobs supported in the supply chain or distribution chain/Stimulating, enabling, or limiting foreign direct investment/Economic impact of change in location of operations or activities/Economic impact of the use of products and services b. Report the significance of the impacts in the context of external benchmarks and stakeholder priorities, such as national and international standards, protocols, and policy agendas	AR	36-41
EC9	Proportion of spending on local suppliers at significant locations of operations a. Report the percentage of the procurement budget used for significant locations of operation spent on suppliers local to that operation (such as percentage of products and services purchased locally) b. Report the organisation's geographical definition of 'local' c. Report the definition used for 'significant locations of operation'	SDR	29
Environmental indicators			
EN1	Materials used by weight or volume	SDR	82-83
EN2	Percentage of materials used that are recycled input materials	SDR	36
EN3	Energy consumption within the organisation	SDR	46, 48, 82-89
EN4	Energy consumption outside of the organisation	SDR	48-49
EN5	Energy intensity	SDR	46, 48, 82-89
EN6	Reduction of energy consumption	SDR	46, 48, 82-89
EN7	Reductions in energy requirements of products and services	SDR	16-17, 48
EN8	Total water withdrawal by source	SDR	55, 84-85, 87
EN9	Water sources significantly affected by withdrawal of water a. Report the total number of water sources significantly affected by withdrawal by type: Size of water source/Whether or not the source is designated as a protected area (nationally or internationally)/ Biodiversity value (such as species diversity and endemism, total number of protected species)/ Value or importance of water source to local communities and indigenous peoples b. Report standards, methodologies, and assumptions used	SDR	50, 52, 54-55, 84-85, 87
EN10	Percentage and total volume of water recycled and reused	SDR	52, 55

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GRI-4	Description	Source/Comment	Page(s)
EN11	Location and size of land by protected areas and areas of high biodiversity value	Website	
EN12	Description of significant impacts of activities, products and services on biodiversity	SDR	38-41
EN13	Habitats protected or restored	SDR Website	41
EN14	Total number of IUCN Red List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk	SDR Website	41
EN15	Direct greenhouse gas (GHG) emissions (Scope 1)	SDR	45, 87, 80
EN16	Energy indirect greenhouse gas (GHG) emissions (Scope 2)	SDR	86-87, 89
EN17	Other relevant indirect greenhouse gas emissions by weight	SDR	49
EN18	Initiatives to reduce greenhouse gas emissions and reductions achieved	SDR	40-47
EN19	Reduction of greenhouse gas (GHG) emissions	SDR	Cover flap page, 2, 4, 40, 43, 47
EN20	Emissions of ozone-depleting substances by weight	SDR	SO _x , NO _x , 84-89
EN21	NO _x , SO _x and other significant air emissions by type and weight	SDR	84-89
EN22	Total water discharge by quality and destination	SDR	86-87, 89
EN23	Total weight of waste by type and disposal method	SDR	86-87, 89
EN24	Total number and volume of significant spills	SDR	No significant spills in 2017
EN25	Weight of transported, imported, exported or treated waste deemed hazardous under the terms of the Basel convention 2 Annex I, II, III and VIII and percentage of transported waste shipped internationally	SDR	61, 86-87, 89
EN26	Identity, size, protected status and biodiversity value of water bodies and related habitats significantly affected by the organisation's discharges of water and runoff a. Report water bodies and related habitats that are significantly affected by water discharges based on the criteria described in the Compilation section below, adding information on: Size of water body and related habitat Whether the water body and related habitat is designated as a protected area (nationally or internationally) Biodiversity value (such as total number of protected species)	Website	
EN27	Extent of impact mitigation of environmental impacts of products and services	SDR	41, 49, 55, 63
EN28	Percentage of products sold and their packaging materials that are reclaimed by category	SDR	Smurfit Kappa produces packaging materials for other industries
EN29	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with environmental laws and regulations	SDR	26
EN30	Significant environmental impacts of transporting products and other goods and materials for the organisation's operations, and transporting members of the workforce	SDR	49
EN31	Total environmental protection expenditures and investments by type a. Report total environmental protection expenditures by: Waste disposal, emissions treatment, and remediation costs Prevention and environmental management costs	SDR AR	52
EN32	Percentage of new suppliers that were screened using environmental criteria a. Report the percentage of new suppliers that were screened using environmental criteria	SDR	28-29
EN33	Significant actual and potential negative environmental impacts in the supply chain and actions taken a. Report the number of suppliers subject to environmental impact assessments b. Report the number of suppliers identified as having significant actual and potential negative environmental impacts c. Report the significant actual and potential negative environmental impacts identified in the supply chain d. Report the percentage of suppliers identified as having significant actual and potential negative environmental impacts with which improvements were agreed upon as a result of assessment e. Report the percentage of suppliers identified as having significant actual and potential negative environmental impacts with which relationships were terminated as a result of assessment, and why	SDR	29, 91

GRI-4	Description	Source/Comment	Page(s)
EN34	Number of grievances about environmental impacts filed, addressed, and resolved through formal grievance mechanisms a. Report the total number of grievances about environmental impacts filed through formal grievance mechanisms during the reporting period b. Of the identified grievances, report how many were: Addressed during the reporting period Resolved during the reporting period c. Report the total number of grievances about environmental impacts filed prior to the reporting period that were resolved during the reporting period	SDR	27 Respecting the environment we operate in, is part of our Code of Business Conduct. We collect grievances about environmental impacts filed, addressed and resolved through our environmental questionnaire (see the section About this report, page 94). We record all non-compliances with our permits regardless of a form of grievance mechanism. In 2017, no significant grievances were reported.
Labour practice indicators			
LA1	Total number and rates of new employee hires and employee turnover	SDR	66-67, 91
LA2	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation a. Report the benefits which are standard for full-time employees of the organisation but are not provided to temporary or part-time employees, by significant locations of operation. These include, as a minimum: Life insurance/Health care/Disability and invalidity coverage/Parental leave/Retirement provision/Stock ownership/Others b. Report the definition used for 'significant locations of operation'	SDR	66-67, 73, 76
LA3	Return to work and retention rates after parental leave, by gender a. Report the total number of employees that were entitled to parental leave, by gender b. Report the total number of employees that took parental leave, by gender c. Report the total number of employees who returned to work after parental leave ended, by gender d. Report the total number of employees who returned to work after parental leave ended who were still employed twelve months after their return to work, by gender. e. Report the return to work and retention rates of employees who took parental leave, by gender	SDR	Parental leave is entitled to any employee within the national legislation and agreements, paid and/or unpaid. Smurfit Kappa had 1,095 employees on parental leave during 2017 (of which 770 men and 325 women). In 2017, 733 employees returned from parental leave, of which 563 men, and 170 women.
LA4	Minimum notice period(s) regarding significant operational changes	SDR	67-68
LA5	Percentage of total workforce represented in formal joint management / worker health and safety committees that help monitor and advise on occupational health and safety programs a. Report the level at which each formal joint management-worker health and safety committee typically operates within the organisation b. Report the percentage of the total workforce represented in formal joint management-worker health and safety committees	SDR	67-68
LA6	Type of injury and rates of injury, occupational diseases, lost days, absenteeism, and total number of work-related fatalities, by region and by gender	SDR	76,-77, 79
LA7	Workers with high incidence or high risk of diseases related to their occupation a. Report whether there are workers who are involved in occupational activities who have a high incidence or high risk of specific diseases	SDR	76-77, 91
LA8	Health and safety topics covered in formal agreements with trade unions a. Report whether formal agreements (either local or global) with trade unions cover health and safety b. If yes, report the extent, as a percentage, to which various health and safety topics are covered by these agreements	SDR	67-68
LA9	Average hours of training per year per employee by gender, and by employee category	SDR	70
LA10	Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings	SDR	23, 67-68
LA11	Percentage of employees receiving regular performance and career development reviews, by gender and by employee category	SDR	70-73, 76-77
LA12	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity	SDR	64-79
LA13	Ratio of basic salary of men to women by employee category	SDR	73,76
LA14	Percentage of new suppliers that were screened using labour practices criteria	SDR	28-29

GRI-INDEX

GRI-4	Description	Source/Comment	Page(s)
LA15	Significant actual and potential negative impacts for labour practices in the supply chain and actions taken a. Report the number of suppliers subject to impact assessments for labour practices b. Report the number of suppliers identified as having significant actual and potential negative impacts for labour practices c. Report the significant actual and potential negative impacts for labour practices identified in the supply chain d. Report the percentage of suppliers identified as having significant actual and potential negative impacts for labour practices with which improvements were agreed upon as a result of assessment e. Report the percentage of suppliers identified as having significant actual and potential negative impacts for labour practices with which relationships were terminated as a result of assessment, and why	SDR	28-29
LA16	Number of grievances about labour practices filed, addressed, and resolved through formal grievance mechanisms a. Report the total number of grievances about labour practices filed through formal grievance mechanisms during the reporting period b. Of the identified grievances, report how many were: Addressed during the reporting period Resolved during the reporting period c. Report the total number of grievances about labour practices filed prior to the reporting period that were resolved during the reporting period	SDR	27, 68, 73
Human rights indicators			
HR1	Percentage and total number of significant investment agreements that include human rights clauses or that have undergone human rights screening	SDR	68
HR2	Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained a. Report the total number of hours in the reporting period devoted to training on human rights policies or procedures concerning aspects of human rights that are relevant to operations b. Report the percentage of employees in the reporting period trained in human rights policies or procedures concerning aspects of human rights that are relevant to operations	SDR	Employees have received training on Group's Code of Business Conduct which covers human rights in 2013-2014 when the latest code was published. New employees receive training and information when beginning their employment. See SDR 2014 p. 26.
HR3	Total number of incidents of discrimination and actions taken	SDR	27, 66
HR4	Operations and significant suppliers identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and actions taken to support these rights	SDR	28-29
HR5	Operations with significant risk for incidents of child labour, and measures taken to eliminate	SDR	24, 58-59, 66
HR6	Operations with significant risk of forced or compulsory labour, and measures to eliminate	SDR	66
HR7	Percentage of security personnel trained in the organisation's policies or procedures concerning aspects of human rights that are relevant to operations	N/A	
HR8	Incidents of violations involving rights of indigenous people and actions taken	SDR	41
HR9	Percentage and number of operations subject to human rights reviews	SDR	41
HR10	Percentage of new suppliers that were screened using human rights criteria	SDR	28-29, 83
HR11	Significant actual and potential negative human rights impacts in the supply chain and actions taken	SDR	28-29, 83
HR12	Number of grievances related to human rights addressed and resolved	SDR	27, 58-59
Social			
SO1	Percentage of operations with implemented local community engagement, impact assessments and development programmes	SDR	23, 77, 79
SO3	Percentage and total number of business units analysed for risks related to corruption	SDR	26-27
SO4	Percentage of employees trained in organisation's anti-corruption policies and procedures	SDR	26-27

GRI-4	Description	Source/Comment	Page(s)
SO5	Confirmed incidents of corruption and actions taken a. Report the total number and nature of confirmed incidents of corruption b. Report the total number of confirmed incidents in which employees were dismissed or disciplined for corruption c. Report the total number of confirmed incidents when contracts with business partners were terminated or not renewed due to violations related to corruption d. Report public legal cases regarding corruption brought against the organisation or its employees during the reporting period and the outcomes of such cases	SDR	26-27
SO6	Total value of political contributions by country and recipient/beneficiary a. Report the total monetary value of financial and in-kind political contributions made directly and indirectly by the organisation by country and recipient/beneficiary b. Report how the monetary value of in-kind contributions was estimated, if applicable	SDR	27
SO7	Total number of legal actions for anti-competitive behaviour, anti-trust and monopoly practices and their outcomes	SDR	27
SO8	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations	SDR	27
SO9	Percentage of new suppliers that were screened using criteria for impacts on society	SDR	29, 91
SO2	Operations with significant actual and potential negative impacts on local communities Report operations with significant actual and potential negative impacts on local communities, including: The location of the operations The significant actual and potential negative impacts of operations	SDR	3, 23, 77, 79
SO10	Significant actual and potential negative impacts on society in the supply chain and actions taken a. Report the number of suppliers subject to assessments for impacts on society b. Report the number of suppliers identified as having significant actual and potential negative impacts on society c. Report the significant actual and potential negative impacts on society identified in the supply chain d. Report the percentage of suppliers identified as having significant actual and potential negative impacts on society with which improvements were agreed upon as a result of assessment e. Report the percentage of suppliers identified as having significant actual and potential negative impacts on society with which relationships were terminated as a result of assessment, and why	SDR	28-29
SO11	Total number of grievances about impacts on society filed through formal grievance mechanisms during the reporting period	SDR	26-27
Product responsibility indicators			
PR1	Life cycle stages in which health and safety impacts of products and services are assessed for improvement, and percentage of significant products and services categories subject to such procedures	SDR	27-28
PR2	Incidents of non-compliance with regulations and voluntary codes on health and safety impacts of products and services during their life cycle, by type of outcomes	SDR	27-28
PR3	Type of product and service information required by procedures, and percentage of significant products and services subject to such information requirements	SDR	Not applicable. Our products are business to business and in general no such information is required.
PR4	Total number of incidents of non-compliance with regulations and voluntary codes concerning product and service information and labelling, by type of outcomes	SDR	Not applicable. Our products are business to business and in general no such information is required.
PR5	Practices related to customer satisfaction, including results of surveys that measure customer satisfaction	SDR	27-28, 70
PR6	Sale of banned or disputed products a. Report whether the organisation sells products that are: Banned in certain markets The subject of stakeholder questions or public debate b. Report how the organisation has responded to questions or concerns regarding these products	SDR	Not applicable. Our products are not under such regulations or public debate.
PR7	Total number of incidents of non-compliance with regulations and voluntary codes on marketing communications, including advertising, promotion and sponsorship by type of outcomes	SDR	26-28

GRI-INDEX

GRI-4	Description	Source/Comment	Page(s)
PR8	Total number of substantiated complaints regarding breaches of customer privacy and losses of customer data	No substantiated complaints identified.	
PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services	No material fines and/or substantiated claims for non-compliance with laws or regulations concerning the provision and use of products and services were identified.	

BUSINESS IN THE COMMUNITY IRELAND

COMMENTARY ON THE SMURFIT KAPPA SUSTAINABLE DEVELOPMENT REPORT 2017

In this 11th Smurfit Kappa Sustainable Development Report, Group CEO Tony Smurfit affirms that 'only with a sense of purpose can a company achieve its full potential'.

Smurfit Kappa's purpose is to meet the needs of customers, generate superior returns for investors, and invest in people, communities and the environment. Through the detail provided in this report, the reader learns how that sense of purpose is continually driving improvement and success in this globally leading business.

At a time when there is growing public concern about the huge volumes of non-biodegradable plastic floating in oceans throughout the world, the latest Smurfit Kappa report emphasises the qualities of paper-based packaging – renewable, recyclable and biodegradable, delivering a lower supply chain environmental impact.

Operations are designed around an impressive circular economy model, where the productivity of resources are maximised and waste (including CO₂ emissions generated in production) is minimised.

In 2017, Smurfit Kappa achieved a 26% reduction in relative fossil CO₂ emissions for their paper mills, compared to 2005. This exceeded their 2020 goal of 25% and it was attained three years ahead of schedule. A 37.5% reduction in Chemical Oxygen Demand in water discharge was also achieved three years early, exceeding the 2020 goal of 33%.

Organic by-products of the production process are used as biofuel. Paper mills now use a fuel mix of 49.5% biofuels.

While 50% of paper mills reduced the amount of waste sent to landfill, the other 50% increased it, illustrating the challenge presented by one of Smurfit Kappa's key raw materials: bales of recovered paper. These contain materials such as metal, plastic, wood, textiles and sand, separated during the pulping of recovered paper fibres. We were intrigued to read about the efforts to find alternative revenue streams for this waste, where the company is working in partnership and utilising a team of internal and external experts.

We welcomed the inclusion of case studies on circularity, innovation and inclusiveness, particularly the collaboration with the City of Malaga to improve the collection of the city's recycled paper, that provides Smurfit Kappa's production loop with a valuable recovered fibre material; and the example of KarTent: the festival tent made of cardboard, that screens out more light and noise than

nylon tents, is water resistant and so sturdy it can be reused (and then recycled).

We liked how Smurfit Kappa has articulated its approach to sustainable forest management, paper and packaging production, in the context of the UN 2030 Sustainable Development Goals. Useful detail is provided regarding Forest Management Certification and related Chain of Custody Systems through the packaging life-cycle.

One of the many differentiating facets of Smurfit Kappa is how the company works closely with customers to develop solutions for their value chains. The suite of eco-design software – InnoBook, Paper To Box and Pack Expert – help to determine the carbon footprint of customer packaging and create designs solutions for products and markets that promote the goals of sustainability. The resulting optimised packaging delivers efficiency savings in transport, storage and display.

In 2017, Smurfit Kappa spent €5.1 billion on raw materials, energy, transportation, maintenance/repair and investment goods, drawing on the guidance of a Sustainable Sourcing Programme that places the assessment and management of supplier risk centre stage.

We were keen to read that following detailed risk mapping and auditing, supplier improvement has included a focus on hygiene and environmental management systems. New developments in the auditing process in 2017 included a special emphasis on the UK Modern Slavery Act and increased supplier screening on human rights, particularly in the area of transport. The mapping of the company's supply chain operations against the 17 Sustainable Development Goals also show a clear intent on demonstrating how the business model is contributing to these essential 2030 issues.

Employee engagement has also been a focus of improvement in recent years and we saw that in 2017, the My Voice Survey achieved a response rate of 84% which is significantly high for a company with 46,000 employees in 370 production sites across 35 countries.

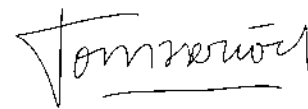
Excellence in health & safety continues to be a priority for Smurfit Kappa. In 2017, there were two fatalities of employees, in the Netherlands and Venezuela, which has led to the further reinforcement of stringent site procedures. Notably, a 9% annual reduction in Lost Time Accidents was achieved in the period 2013-2017.

As employee training and development is important to Smurfit Kappa, we were interested to read about the integration of the Open Leadership Model and how it is assisting with succession planning. Efforts on diversity and inclusion have included a specific focus on gender diversity which seems to be working.

The Smurfit Kappa Foundation continues to have a very positive impact. We very much appreciated the difference the Foundation has been able to make to Suzanne House in Dublin, Ireland, the respite care facility for terminally ill children with life-limiting conditions.

From this report, it is clear that materiality, stakeholder consultation and collaboration are of substantial importance to this FTSE 100 company and serve as a robust method of risk management. For Smurfit Kappa, the circular economy is the business model of the future and they have an important role to play in it. Investor interest in the sustainability portfolio of Smurfit Kappa should act as a driver of growth and opportunity as more investors are seeking evidence of impact and innovation on the business model of leading companies.

In the next report, we look forward to reading case studies from customers and more about the projects that will further contribute to the lowering of Smurfit Kappa's environmental footprint, following on from the early achievement of a range of sustainability targets. The Sustainable Development Goals demand collaborative action and leadership; we hope to see more evidence of how collaborative platforms are facilitating the achievement of the company's mission and sustainable model.



Tomás Sercovich,

Chief Executive,

Business in the Community Ireland



UN GLOBAL COMPACT

Smurfit Kappa became a supporter of the United Nations Global Compact ('UNGC'), a worldwide corporate citizenship initiative, in 2010.

As a network of more than 12,000 corporate participants and other stakeholders in some 170 countries, it is the largest voluntary corporate responsibility initiative in the world. Supporters of the UNGC promote ten core principles in the areas of human rights, labour, environment and anti-corruption. These principles are listed in the table below.

As a part of this commitment, Smurfit Kappa will report on the Company's corporate responsibility activities and performance in an annual Communication on Progress (COP), using the annual Sustainable Development Report as the platform for this communication.

The Sustainable Development Report provides a number of examples of ongoing activities, as well as relevant key performance indicators, which illustrate Smurfit Kappa's support for the ten Global Compact principles in its everyday business. Measurements of performance related to the Global Compact principles are given using indicators provided by the Global

Reporting Initiative (GRI), wherever feasible. In particular, GRI performance indicators relating to human rights, labour and anti-corruption principles are presented in the Social Development section while environmental performance indicators reported in the Environment section. A complete GRI index can be found on pages 95 to 104 of the Report.

The following table shows how our performance in relation to each UN Global Compact principle can be reported using a number of GRI performance indicators. This is based on guidance documents published by the UN Global Compact.

UNGC principles	GRI indicators
Human Rights	
1 Businesses should support and respect the protection of internationally proclaimed human rights; and	HR1-11, LA5, LA7-8, LA13-15, PR8
2 Businesses should make sure that they are not complicit in human rights abuses.	HR1-11
Labour	
3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	LA4-5
4 Businesses should uphold the elimination of all forms of forced and compulsory labour;	HR7
5 Businesses should uphold the effective abolition of child labour;	HR6
6 Businesses should uphold the elimination of discrimination in respect of employment and occupation.	EC7, LA2, LA13-15, HR4
Environment	
7 Businesses are asked to support a precautionary approach to environmental challenges;	EC2, EN18-19, EN26-27
8 Businesses should undertake initiatives to promote greater environmental responsibility; and	EN1-30, PR3-4
9 Businesses should encourage the development and diffusion of environmentally friendly technologies.	EN2, EN5-7, EN10, EN18-19, EN26-28
Anti-corruption	
10 Businesses should work against corruption in all its forms, including extortion and bribery.	SO2-4



GLOSSARY

Certifications: forest and other

Afforestation	Afforestation is the establishment of a forest or stand of trees (forestation) in an area where there was no previous tree cover.
Certified wood product	Certification is given to companies and landowners to verify that their forestry practices are consistent with requirements laid down in these standards. Only certified wood products may carry a label. The label on wood products guarantees that consumers can trust their sources. Actual certification is carried out by independent certification organisations accredited by FSC or PEFC or SFI to carry out audits.
CoC. Chain of Custody	Chain of Custody certification applying to wood/fibre material and products. Chain of Custody is an information trail about the path taken by products from the forest or, in the case of recycled materials, from the reclamation site, to the consumer. It includes each stage of processing, transformation, manufacturing and distribution where progress to the next stage of the supply chain involves a change of ownership, to provide assurances that wood and wood-based products originate from sustainably managed forests.
Deforestation	Deforestation, clearance, or clearing is the removal of a forest or stand of trees where the land is thereafter converted to a non-forest use.
FSC. The Forest Stewardship Council	The Forest Stewardship Council is an independent, non-governmental organisation established to promote responsible management of the world's forests through independent third-party certification.
FSSC 22000	These standards specify requirements for a food safety management system when an organisation in the food chain needs to demonstrate its ability to control food safety hazards, ensuring that food is safe at the time of human consumption.
ISO 9001	Scheme certified by an independent third party which ensures that the operation certified applies internationally recognised standards and procedures of quality management.
ISO 14001	Scheme certified by an independent third party which ensures that the operation certified applies internationally recognised standards and procedures of environmental management.
ISO 50001. Energy management Systems	Scheme certified by an independent third party which ensures that the operation certified applies internationally recognised standards and procedures of energy usage: improvement of efficiency, reduction of consumption and energy security.
Non-controversial origin	Virgin wood or wood fibre which has been verified as having a low probability of including wood from any of the following categories, in line with FSC and PEFC schemes: <ul style="list-style-type: none"> a) Illegally harvested wood; b) Wood harvested in violation of traditional and civil rights; c) Wood harvested in forests in which high conservation values are threatened by management activities; d) Wood harvested in forests being converted from natural and semi-natural forests to plantations or non-forest use; e) Wood from forests in which genetically modified trees are planted.
OHSAS 18001	Scheme certified by an independent third party which ensures that the operation certified applies internationally recognised standards and procedures of occupational health and safety management.
PEFC. The Programme for the Endorsement of Forest Certification	Programme for the Endorsement of Forest Certification. PEFC is an independent, non-governmental organisation that promotes sustainably managed forests through independent third-party certification.
Reforestation	Reforestation is the natural or intentional restocking of existing forests and woodlands (forestation) that have been depleted.
SFI	SFI Inc., (Sustainable Forest Initiative) is an independent, non-profit organisation dedicated to promoting sustainable forest management. Companies are certified with Chain of Custody according to the SFI standard, through independent third-party certification.
EU Timber Regulation	The EU Timber Regulation is a regulation aiming to reduce illegal logging by ensuring that no illegal timber or timber products can be sold in the EU. It applies to wood and wood products being placed for the first time on the EU market.

Climate change, energy and air emissions

Bioenergy	Bioenergy is one of the many diverse resources available to help meet our energy demand. It is a form of renewable energy derived from biomass (organic material) which can be used to produce heat, electricity, transportation fuels, and products.
Biofuels	Fuels coming from biomass: wood rejects, bark, black liquor, pitch oil, certain parts of mixed waste, and biogas produced during the anaerobic treatment of water.
Biomass	Biomass is an energy resource derived from plant- and algae-based material that includes crop waste, forest residues, purpose-grown grasses, woody energy crops, algae, industrial waste, sorted municipal solid waste, urban wood waste, and food waste.
Black liquor	Residue from pulping, containing organic compounds such as lignin. This residue is burnt to produce energy and to recover the chemicals.
By-product	Secondary or incidental products deriving from a manufacturing process and which are not the primary product. A by-product can be marketable.
Carbon dioxide equivalent CO₂-eq	A measure used to compare the emissions from various greenhouse gases based upon their climate change potential (CCP). The CO ₂ -eq carbon dioxide equivalent for other emissions is derived by multiplying the amount of the emission by the associated CCP factor.
Carbon Footprint	Carbon released to the atmosphere during the life cycle of a product from cradle to grave.
CDP	CDP (formerly the "Carbon Disclosure Project") is an organisation based in the United Kingdom which encourages large corporations from the world's major economies to disclose their greenhouse gas emissions and climate change strategies. In 2015, nearly 5,500 businesses reported climate change data to CDP.

GLOSSARY

CHP	Combined Heat and Power: a combination of a boiler and a gas and/or steam turbine that simultaneously produces electricity and thermal energy (steam) by burning fuels. This system is considered to be the most efficient technology in industries using both steam and electricity. When mills sell part of their produced steam to an external party or have net electricity export (selling more to an external party than purchasing), the consumption of fuel and emissions reported for these mills is adjusted to report only that part used to produce paper. This adjustment is based on a reference heat boiler with an efficiency of 90%, which is also used by CEPI and the European Commission for EU ETS benchmark calculations.
CHP (outsourced)	A CHP installation belonging to an external party, located at or near a Smurfit Kappa site for delivering electricity and steam to the Smurfit Kappa production facility. All fuel and electricity used to produce paper, as well as emissions related to the process, are included in the figures for the Smurfit Kappa production facility.
Climate Change	The United Nations Framework Convention on Climate Change (UNFCCC) defines this as a change of climate that is attributed directly or indirectly to human activity, altering the composition of the global atmosphere.
Co-generated electricity	Electricity generated by a CHP system belonging to Smurfit Kappa or from an outsourced CHP system.
CO₂ biogenic	Carbon dioxide emitted when burning biofuels. This CO ₂ is considered to be carbon neutral as it is removed from the atmosphere and stored in biomass within a short period of time.
CO₂ fossil	Carbon dioxide emitted when burning fossil fuels to produce paper. It is calculated according to international guidelines for the carbon content of each fuel (WRI/WBCSD GHG protocol).
CO₂ indirect	Fossil carbon dioxide generated externally in the production of electricity purchased from the grid. Source: IEA CO ₂ Emissions from Fuel Combustion, OECD/IEA, Paris, 2016.
Dust	Particles created by fuel combustion. Dust emissions are measured mainly by our mills. Where dust is not measured (for example, in converting plants), emissions are calculated from fuel consumption using the emission factors listed in the Ecoinvent database version 2.1. Ecoinvent is a life cycle inventory database for energy systems, materials, transports and chemicals.
Energy efficiency	Energy efficiency, is the goal of reducing the amount of energy required to provide products and services.
Energy Union	The EU Energy Union strategy is focused on boosting energy security, creating a fully integrated internal energy market, improving energy efficiency, decarbonising the economy (not least by using more renewable energy), and supporting research, innovation and competitiveness.
European Union Emissions Trading System – EU ETS	EU ETS, also known as the European Union Emissions Trading Schemes, is the most extensive greenhouse gas emissions trading scheme in the world. It was launched in 2005 to combat global warming and is a major pillar of EU climate policy. As of 2013, the EU ETS covers more than 11,000 large factories, power stations and other installations in 31 countries.
Fossil fuels	Fuels originating from non-renewable resources (gas, oil, coal, peat and lignite).
GHG emissions	A greenhouse gas is any gaseous compound in the atmosphere that is capable of absorbing infrared radiation, and so traps and holds heat in the atmosphere. By increasing the heat in the atmosphere, greenhouse gases are responsible for the greenhouse effect, which leads to global warming.
GJ	Gigajoule, a unit of energy that generally applies to fuel. 1 gigajoule (GJ) = one billion joules = 10 ⁹ joules.
Grid supply	Electricity purchased from a national distribution network.
GWh	Unit of energy, generally applies to electricity. 1 GWh (GigaWatt hour) = 1 million kWh (kiloWatt hour).
NO_x	Mix of nitrogen oxides (NO and NO ₂) calculated as NO ₂ (nitrogen dioxide) coming from combustion of fuels. They can contribute to the acidification of soil and water. NO _x emissions are measured mainly by our mills. Where NO _x is not measured (for example, by converting plants), emissions are calculated from fuel consumption using the emission factors listed in the Ecoinvent database version 2.1.
Paris agreement	Agreement within the framework of the United Nations Framework Convention on Climate Change dealing with greenhouse gases, emissions mitigation, adaptation and finance, starting in the year 2020. An agreement on the language of the treaty was negotiated by representatives of 195 countries during COP21.
Self-generated electricity	Electricity generated by an electricity generator without recovery of steam.
Sequestration	Carbon sequestration describes the long-term storage of carbon dioxide or other forms of carbon to either mitigate or defer global warming, and avoid dangerous climate change.
SO_x	Mix of sulphur oxides calculated as SO ₂ (sulphur dioxide) generated by fuel combustion. Sulphur dioxide contributes to the acidification of soil and water. SO _x emissions are measured mainly by our mills. Where SO _x is not measured (for example, in converting plants), emissions are calculated from fuel consumption using the emission factors listed in the Ecoinvent database version 2.1.
PJ	Petajoule, a unit of energy. 1 petajoule = 1,000 terajoules = 10 ¹⁵ joules.
TJ	Terajoule, a unit of energy that generally applies to fuel. 1 terajoule = 1,000 gigajoules = 10 ¹² joules.
21st Conference of the Parties – COP 21	The 2015 United Nations Climate Change Conference was held in Paris, France from 30 November to 12 December 2015. It was the 21st yearly session of the Conference of the Parties to the 1992 United Nations Framework Convention on Climate Change and the 11th session of the Meeting of the Parties to the 1997 Kyoto Protocol.
Health and Safety	
Accident	An undesirable or unfortunate happening that occurs unintentionally and usually results in harm, injury, damage, or loss
Lost time accident	Refers to a work-related injury incident sustained by a Smurfit Kappa employee while performing their work duties that results in their absence from scheduled work after the day of the incident
Lost time accident frequency rate	Refers to the number of lost time accidents per 100,000 hours worked. [LTA frequency rate = number of LTA x 100,000/ total number of hours worked].

Lost time accident severity rate	Refers to the total number of days lost per 100,000 hours worked. [LTA severity rate = number of days lost x 100,000/ total number of hours worked]. We refer to LTA severity rate when speaking about our target to reduce the injury rate by 5% annually during 2013-2017.
Number of days lost	Refers to the number of days lost arising from any lost time accident. When counting the number of days lost due to an accident, the day of the accident is not counted as a lost day.
United Nations Declaration of Human Rights	The Universal Declaration of Human Rights (UDHR) is a milestone document in the history of human rights. Drafted by representatives with different legal and cultural backgrounds from all regions of the world, the Declaration was proclaimed by the United Nations General Assembly in Paris on 10 December 1948 (General Assembly resolution 217 A), as a common standard of achievements for all peoples and all nations. It sets out, for the first time, fundamental human rights to be universally protected. It has been translated into over 500 languages.
Workforce	The workforce or labour force, is the labour pool in employment; it is generally used to describe those working for a company or industry.

Products and raw materials

Containerboard	Papers and boards mainly used in the manufacture of corrugated board. They are made from virgin or recovered fibres and include kraftliner, testliner, semi-chemical fluting and recycled fluting.
Corrugated board	Structured board made by a corrugator, usually formed by gluing one wave-formed liner (called fluting) in the middle to two flat-facing sheets of containerboard (kraftliner or testliner).
Fluting	The wave-formed middle layer in corrugated board.
Kraftliner	Paper manufactured mainly from virgin wood fibres
Inorganic raw materials	Raw material used for manufacturing products that are not organic such as fillers, sodium hydroxide, sodium sulphate and calcium oxide.
Other organic raw materials	Raw materials used for manufacturing products that are organic excluding fibres, starch or plastic raw materials which are reported individually. This category includes oil, lubricant and organic additives such as colourant or dyes.
Raggers	In the beginning of the repulping process, in which recovered paper is returned to pulp, non-fibrous materials are removed from the recovered paper. Plastics, strapping and other floating materials are collected from the mass with a rope called a 'ragger'.
Recovered paper	Recovered paper refers to used paper and board separately collected and classified for recycling. They are then used as raw material in the manufacture of new paper and paperboard.
Recovery	Recovery refers to extracting selected materials for a specific use. In the paper industry this means recovery of fibres in recycled paper, or the recovery of energy value in the final stage of the material life cycle.
Recycling	Converting material into new materials and products. In the paper industry this refers to converting recovered fibres back to paper, and finding new uses for other raw materials produced alongside recovered paper instead of sending them to landfill.
Reduction	This can either mean finding the most materially efficient way to use raw materials or replacing a harmful raw material with a less harmful one, thus reducing its harmful impact.
Renewing	Using renewable raw materials in a sustainable manner, and maintaining the natural ability of the material to be renewed.
Reuse	Reuse is the action or practice of using something again, whether for its original purpose (conventional reuse) or to fulfil a different function (creative reuse or repurposing) without changing its form in between.
Testliner	Paper manufactured from recycled fibres.
Virgin fibre	Pulp obtained through a chemical process used to remove lignin from wood. As a result, the fibre can be used to produce paper. The lignin residue and other organic compounds are subsequently collected and used in the formation of black liquor.

Organisations

Asociación de Corrugadores del Caribe Centro y Sur América (ACCCSA)	Organisation of corrugated cardboard manufacturers in the Latin American region, whose objective is to exchange experience, ideas and technological knowledge that will benefit and consolidate the entire Latin American corrugator sector.
CEPI	CEPI, the Confederation of European Paper Industries. This is a non-profit organisation representing the European pulp and paper industry.
DJSI	The Dow Jones Sustainability Index tracks the stock performance of the world's leading companies in terms of economic, environmental and social criteria.
Ecovadis	EcoVadis brings buyers and suppliers together to efficiently drive corporate social responsibility and sustainability performance across 150 sectors and 120 countries, with the intention of reducing risk and driving innovation in their supply chains.
ELCD. European Reference Life Cycle Database	European Reference Life Cycle Database. The ELCD has been developed within the 'European Platform on Life Cycle Assessment' by the Commission's Joint Research Centre, Institute for Environment and Sustainability (JRC-IES).
ERT. The European round Table of Industrialists	The European Round Table of Industrialists (ERT) is a forum bringing together around 50 Chief Executives and Chairmen of major multinational companies of European origin. It covers a wide range of industrial and technological sectors and works to strengthen competitiveness in Europe. The group works at both national and European levels.
ESG. Environmental, Social and Corporate Governance	Environmental, social and corporate governance (ESG) criteria refer to three main factors investors consider regarding a firm's ethical impact and sustainable practices.
Ethibel	The Ethibel Sustainability Index Excellence Europe lists 200 European companies which display the best performance in terms of corporate social responsibility.

GLOSSARY

Euronext Vigeo	The Euronext Vigeo indices comprise the highest-ranking listed companies, as evaluated in terms of their performance in corporate social responsibility.
FAO. UN Food and Agriculture Organisation	The Food and Agriculture Organisation (FAO) is a specialised agency of the United Nations that leads international efforts to defeat hunger. FAO creates and shares critical information about food, agriculture and natural resources in the form of global public goods. With over 194 member states, FAO works in over 130 countries worldwide.
FEFCO. The European Federation of Corrugated Board Manufacturers	FEFCO is a non-profit organisation representing the interests of the corrugated packaging industry across Europe, addressing a wide range of issues, from technical topics to economic questions. It investigates economic, financial, technical and marketing issues of interest to the industry, analysing all factors which may influence it, and promoting and developing its image.
FTSE4Good	The FTSE4Good Index series is designed to measure the performance of companies demonstrating strong environmental, social and governance practices.
GRI. Global Reporting initiative	Since 1997, GRI has been an independent international organisation for sustainability reporting. GRI helps businesses and governments worldwide understand and communicate their impact on critical sustainability issues such as climate change, human rights, governance and social well-being. The GRI Sustainability Reporting Standards are developed with true multi-stakeholder contributions, and rooted in the public interest.
ICCA	The International Corrugated Case Association (ICCA), formed in 1961, contributes to the well-being of the corrugated packaging industry worldwide by supporting and enhancing the work of association members.
ILO	The International Labour Organisation (ILO) is the only tripartite U.N. agency. Since 1919, the ILO has brought together governments, employers and workers of 187 member States, to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
IBEC. Irish Business and Employers Confederation	IBEC is Ireland's largest lobby group, representing Irish business both domestically and internationally. Its membership is home grown, multinational, big and small, and includes every sector of the economy.
OECD	The Organisation for Economic Co-operation and Development (OECD), provides a forum in which governments can work together to share experience and find solutions to common problems, work to understand what drives economic, social and environmental changes, measure productivity and global flows of trade and investment, analyse and compare data to predict future trends, and establish international standards for a wide range of issues from agriculture and taxes to the safety of chemical products.
SDGs. Sustainable Development Goals	The Sustainable Development Goals (SDGs) define global sustainable development priorities and aspirations for 2030, and seek to mobilise global efforts around a common set of goals and targets. The SDGs call for worldwide action among governments, business and civil society to end poverty and create a life of dignity and opportunity for all, within the capabilities of the planet.
SSI. State of Sustainability Initiatives	The State of Sustainability Initiatives (SSI) reports on the characteristics, performance and market trends of sustainability initiatives. The research is backed by an internationally-recognised participatory reporting process. The SSI Review offers high-level data and analysis to supply chain decision-makers – including procurement agents, investment advisors, CEOs, policy-makers, sustainability initiatives and NGOs.
SEDEX. The Supplier Ethical Data Exchange	As the largest collaborative platform for sharing ethical supply chain data, Sedex is an innovative and effective supply chain management solution, helping companies to reduce risk, protect company reputation and improve supply chain practices.
STOXX Global ESG Leaders	The STOXX Global ESG Leaders index offers an index of the leading global companies in terms of environmental, social and governance criteria, based on ESG indicators provided by Sustainalytics. The index is made of the following three ESG sub-indices: the STOXX Global ESG Environmental Leaders, the STOXX Global ESG Social Leaders and the STOXX Global ESG Governance Leaders indices.
UN 2030 Agenda	The 2030 Agenda for Sustainable Development was launched by a UN Summit in New York on 25-27 September 2015 and is a plan of action for people, planet and prosperity, to strengthen universal peace and increase freedom. The Agenda's 17 Sustainable Development Goals (SDG), and their 169 targets, build on the Millennium Goals and balance the three aspects of sustainable development.
UN Global Compact's CEO Water Mandate	The CEO Water Mandate is a UN Global Compact initiative that mobilises business leaders on issues concerning water, sanitation, and the Sustainable Development Goals. Endorsers of the CEO Water Mandate commit to continuous progress against six core elements of water stewardship, and in so doing understand and manage their own water risks.
UNECE. United Nations Economic Commission for Europe	The United Nations Economic Commission for Europe (UNECE) was set up in 1947 by ECOSOC. It is one of five regional commissions of the United Nations. UNECE's major aim is to promote pan-European economic integration. UNECE includes 56 member States in Europe, North America and Asia. However, all interested United Nations member states may participate in the work of UNECE. Over 70 international professional organisations and other non-governmental organisations take part in UNECE activities.
Water Footprint Network – WFN	The Water Footprint Network is a non-profit international network whose mission is to promote the sustainable, fair and efficient use of fresh water resources worldwide.
WBCSD. World Business Council for Sustainable Development	The World Business Council for Sustainable Development is a CEO-led organisation of forward-thinking companies that galvanises the global business community to create a sustainable future for business, society and the environment.
World Economic Forum Project Mainstream	The World Economic Forum, committed to improving the state of the world, is the international organisation for public-private cooperation. The Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas. It was established in 1971 as a not-for-profit foundation and is headquartered in Geneva, Switzerland. It is independent, impartial and not tied to any special interests. The Forum strives in all its efforts to demonstrate entrepreneurship in the global public interest while upholding the highest standards of governance.

Waste

Waste	Waste is classified as non-hazardous or hazardous, and reported separately. Wood waste and corrugated board shavings are excluded. All amounts of waste are reported in mass as disposed.
Total non-hazardous waste	Sum of all non-hazardous waste, whatever its destination. Each category of non-hazardous waste is defined and reported.
Non-hazardous waste landfill	Part of the non-hazardous waste that is disposed of in either internal or external landfill, in accordance with national legislation.
Non-hazardous waste recovery	Part of non-hazardous waste that is reused, recycled, composted, used in agriculture or incinerated with energy recovery. The incineration facility is classified as a recovery operation if the efficiency of the plant complies with the definition laid down in Annex II of the Directive 2008/98/EC on waste.
Non-hazardous waste other	Part of non-hazardous waste that does not belong to the two previous categories. This includes waste incinerated without energy recovery, or waste for which the final disposal is uncertain.
Hazardous waste	Hazardous waste is waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Examples include residues of oils, building waste containing asbestos, and ink residues.

Water

AOX	Absorbable Organic Halogens: amount of organic compounds containing chlorine and other halogens. AO_x can be produced during bleaching of pulp when using halogenated bleaching agents.
BOD	Biochemical Oxygen Demand (unit: mg O_2 /litre) refers to the level of oxygen uptake by microorganisms in a sample of water measured over a period of five days.
COD	Chemical Oxygen Demand is the most commonly used test to measure the amount of organic compounds in water (unit: mg O_2 /litre). The result indicates the level of all organic compounds which can be oxidised by a strong oxidising agent.
Process water	Quantity of water containing organic compounds released into the environment (river, sea) after internal water treatment, or released to an external treatment plant (municipal water treatment). In all cases, levels of pollutants released are reported as outputs of the company, even in the case of operations that send process water to external treatment.
Total N (nitrogen)	Sum of organic nitrogen, ammonia (NH_3) and ammonium (NH_4^+) discharged with the process water.
Total P (phosphorous)	Sum of phosphorous compounds discharged with the process water.
Total suspended solids (TSS)	Refers to the level of small solid particles discharged with the process water. Total suspended solids are those solids retained on a glass fibre filter dried to a constant weight at 103 – 105°C.
Water impact assessment	Assessing potential risk to water availability and quantity, covering multiple aspects specific to each geographical location.

ASSURANCE REPORT OF THE INDEPENDENT AUDITOR

To: the readers of the Sustainable Development Report 2017 of Smurfit Kappa Group plc.

Our conclusion

We have reviewed the Sustainable Development Report 2017 (hereafter: the Report) of Smurfit Kappa Group plc. (hereafter: Smurfit Kappa) based in Dublin, Ireland. A review is aimed at obtaining a limited level of assurance.

Based on our procedures performed, nothing has come to our attention that causes us to believe that the Report is not prepared, in all material respects, in accordance with the GRI Sustainability Guidelines version G4.

The Report comprises a representation of the policy of Smurfit Kappa with regard to sustainability and the thereto related business operations, events and achievements during the year.

Basis for our conclusion

We have performed our review on the Report in accordance with Dutch law, including Dutch Standard 3810N 'Assurance-opdrachten inzake maatschappelijke verslagen' (Assurance engagements relating to sustainability reports), which is a specified Dutch standard that is based on the International Standard on Assurance Engagements (ISAE) 3000 'Assurance Engagements other than Audits or Reviews of Historical Financial Information'.

This review engagement is aimed at obtaining limited assurance. Our responsibilities under this standard are further described in the section 'Our responsibilities for the review of the Report' of our report.

We are independent of Smurfit Kappa Group plc. in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

We believe that the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Scope of the group review

Smurfit Kappa is the parent company of a group of entities. The Report incorporates the consolidated information of this group of entities to the extent as specified in the chapter 'About this report'.

Our group review procedures consisted of both review procedures at corporate (consolidated) level and at site level. Our selection of sites in scope of our review procedures is based on the site's individual contribution to the consolidated information and/or type of business. Furthermore, our selection of sites considered relevant reporting risks and geographical spread.

By performing our procedures at site level, together with additional procedures at corporate level, we have been able to obtain sufficient and appropriate assurance evidence about the group's reported information to provide a conclusion about the consolidated sustainability information in the Report.

Limitations in the examination of prospective information

The Report includes prospective information such as ambitions, strategy, plans, expectations and estimates. Inherently the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the Report.

Responsibilities of the Board of Directors for the Report

The Board of Directors of Smurfit Kappa is responsible for the preparation of the Report in accordance with the GRI Sustainability Reporting Guidelines version G4.

The Board of Directors is also responsible for such internal control as it determines is necessary to enable the preparation of the Report that is free from material misstatement, whether due to fraud or error.

Our responsibilities for the review of the Report

Our responsibility is to plan and perform the assurance engagement in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusion.

Procedures performed in an assurance engagement to obtain a limited level of assurance are aimed at determining the plausibility of information and are less extensive than a reasonable assurance engagement. The level of assurance obtained in assurance engagements is therefore substantially less than the level of assurance obtained in an audit engagement.

Misstatements can arise from fraud or errors and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of the Report. The materiality affects the nature, timing and extent of our review procedures and the evaluation of the effect of identified misstatements on our conclusion.

We apply the 'Nadere voorschriften kwaliteitssystemen' (Regulations on quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have exercised professional judgement and have maintained professional scepticism throughout the review, in accordance with the Dutch Standard 3810N, ethical

requirements and independence requirements.

Our review engagement included, among others, the following procedures:

- Performing an analysis of the external environment and obtaining an understanding of relevant social themes and issues, and the characteristics of the organisation;
- Identifying areas of the Report where material misstatements, whether due to fraud or error, are likely to arise, designing and performing assurance procedures responsive to those areas, and obtaining assurance evidence that is sufficient and appropriate to provide a basis for our conclusion;
- Developing an understanding of internal control relevant to the assurance engagement in order to design assurance procedures that are appropriate in the circumstances, but not for the purpose of expressing a conclusion on the effectiveness of the company's internal control;
- Evaluating the appropriateness of the reporting criteria used and their consistent application, including the evaluation of the results of the stakeholders' dialogue and the reasonableness of estimates made by management and related disclosures in the Report;
- Evaluating the overall presentation, structure and content of the Report, including the disclosures, and evaluating whether the Report represents the underlying transactions and events free from material misstatement;
- Interviewing management and relevant staff at corporate level responsible for the sustainability strategy and policy;
- Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures on and consolidating the data in the Report;
- Visits to production sites in SSK (UK), Townsend Hook (UK), Gdansk (Poland), Kolding (Denmark), Medellin (Colombia), Cali Corrugated (Colombia) and Bogota (Colombia) aimed at, on a local level, validating source data and evaluating the design and implementation of internal control and implementation procedures;
- Reviewing relevant internal and external documentation, on a limited test basis, in order to determine the reliability of information in the Report;
- An analytical review of data and trends.

Amsterdam, 14 May 2018
KPMG Sustainability,
Part of KPMG Advisory N.V.

M.A.S. Boekhold-Miltenburg RA
Director

Confirmation of rights to use the trademarks:



The report contents have been assured by an independent third-party assurance provider with a level of limited assurance. We applied the 'Comprehensive' version of the G4 guidelines of GRI for writing this report. The GRI index and assurance letter are available on pages 95 and 112 of this report.

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