



**SUSTAIN-
ABILITY
IN EVERY
FIBRE.**

SUSTAIN- ABILITY IN EVERY FIBRE.

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

THE CIRCULAR ECONOMY

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.

[Read more on pages 24-25](#)

COMMITTED TO 100% SUSTAINABLE SOURCES

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.

[Read more on pages 32-39](#)

OUR STRATEGIC PRIORITIES

We use sustainability as a lens through which to focus our innovation, our strategy and our processes. To achieve this, we focus on five strategic priorities; forest, climate change, water, waste and people. The transparency and detail we offer our stakeholders across our strategic priorities is industry-leading.

[Read more on pages 32-73](#)

REDUCING CARBON FOOTPRINTS THROUGH INNOVATION

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.

[Read more on page 44](#)

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 GRI Standards for writing this report. The GRI index and assurance letter are available on pages 91-95 and 104 of this report.

This report contains an overview of our 2018 performance, a focus on our strategic direction and a review of the businesses underpinning our strategy.

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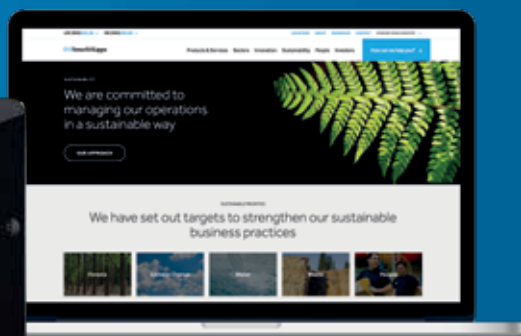
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FOR MORE INFORMATION VISIT
smurfitkappa.com/sustainability



A WORLD LEADER WITH OPERATIONS IN 35 COUNTRIES

We are one of the largest integrated manufacturers of paper-based packaging solutions in the world. We are located in 23 countries in Europe and 12 in the Americas. In Europe, we are the leader in production volume in corrugated packaging and containerboard and we are the only large-scale pan-regional player in Latin America.

OUR BUSINESS IN NUMBERS

68,000

Forests and plantations (hectares)

40

Fibre sourcing

34

Paper and board mills

245

Converting plants

33

Other production facilities



Country – number of locations

United Kingdom – 38

Ireland – 9

The Netherlands – 19

Belgium – 8

Germany – 35

Switzerland – 1

France – 55

Portugal – 2

Sweden – 12

Norway – 1

Denmark – 6

Russia – 4

Latvia – 1

Lithuania – 1

Poland – 5

Czech Republic – 6

Slovakia – 1

Austria – 3

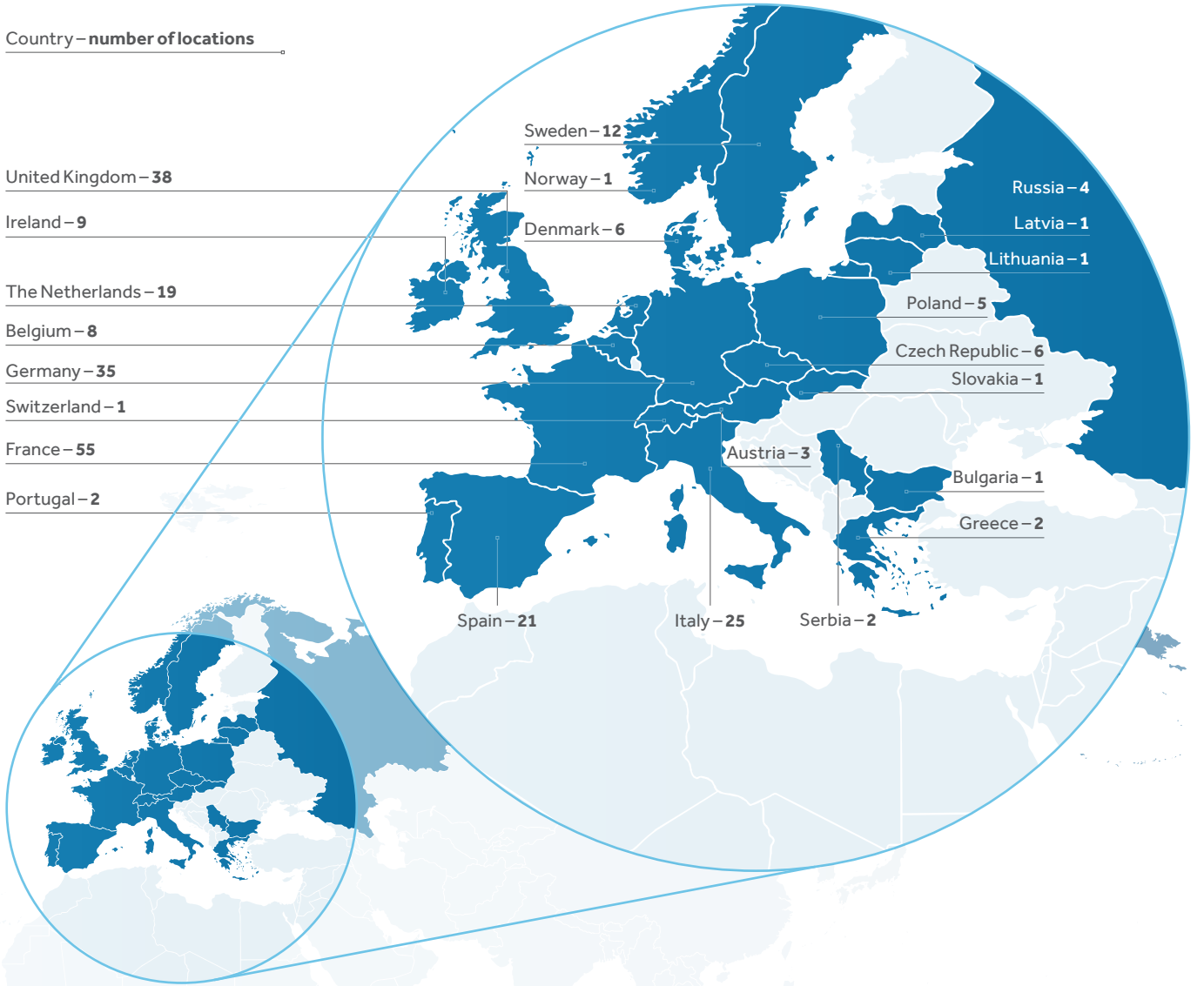
Bulgaria – 1

Greece – 2

Spain – 21

Italy – 25

Serbia – 2



OUR BUSINESS IN NUMBERS

352
Production sites






46,000
Employees

35
Countries

60%
Customers in the FMCG segments

THINKING ABOUT THE WORLD'S CHALLENGES

As a leading company in sustainability, we are committed to doing our part in the global environmental and societal issues that we have control over.

<p>CLIMATE CHANGE Climate change is a universal challenge. Only a united and concerted effort can address this issue.</p>	
<p>DEFORESTATION Deforestation affects natural ecosystems and contributes to climate change, biodiversity and livelihoods.</p>	
<p>WATER SCARCITY A lack of access to clean water and sanitation is an issue affecting millions of people around the world.</p>	
<p>DIVERSITY Everyone should be able to achieve their potential, regardless of gender, ethnicity, sexuality, age or disability.</p>	
<p>LITTER Use of sustainable materials, recycling and better collection systems should lead to less litter, both on land and in the oceans.</p>	



#1

WE UNDERSTAND OUR ROLE

We all want our food, clothing and household goods delivered securely and safe from damage or theft. We create fit-for-purpose packaging solutions to keep our customers' products safe, while communicating their contents to the consumer.

UN SDG's: We fully support delivery of all the Sustainable Development goals.



Reporting on Material Issues
Through stakeholder engagement and robust materiality assessment, we are able to scrutinise the way we deliver on our commitments to sustainability and set tangible targets.

- Our Five Strategic Pillars**
- Forest
 - Climate Change
 - Water
 - Waste
 - People

Find out more on page 14

Find out more on pages 32-73

#2

WE INNOVATE SOLUTIONS

To drive innovation for evolving customer needs and tough environmental and social challenges, we link data, engineering and creative thinking throughout packaged products' value chain, from packaging solutions back to our supply chain and processes.

Relevant UN SDG's:  



Eco-design
Offering tailored fit-for-purpose packaging is the core of our eco-design. We begin by examining the entire customer packaging concept, including optimised choice of paper, to the packaging solution.

Smart Tools
We help our customers develop new solutions, delivering shared value from an innovative idea to implementation. We do this through our web-based suite of design software, Smart Tools.

Find out more on pages 23-26

Find out more on page 26



#6

WE PLAY OUR PART IN THE CIRCULAR ECONOMY

Circular economy is at the core of our business. We use renewable, recyclable and biodegradable materials to create new products.



Relevant UN SDG's:

Circular Economy

We utilise the side streams of our manufacturing processes to their highest possible value by, for example, generating energy or raw materials to use in other processes. Our products are highly recycled and we work to reduce litter by participating in recycling the packaging. We are part of the bioeconomy by using renewable and biodegradable raw material.

[Find out more on pages 24-25](#)



#5

WE WORK SAFELY WITH TALENTED PEOPLE

Having engaged employees is critical for our business. In our global, culturally diverse organisation, our people are encouraged to consider new roles, responsibilities and locations.



Relevant UN SDG's:

Diversity

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.

[Find out more on page 68](#)

Health and Safety

Our entire workforce is involved from home to the workplace in our zero accidents goal. Our Group Health and Safety policies align with OHSAS 18001.

[Find out more on pages 62-73](#)

#3

WE USE RAW MATERIALS RESPONSIBLY

Our goal of creating a circular economy starts in the forest. We have committed to a complete 'Chain of Custody' certified sourcing and manufacturing chain, from fibres to the packaging solutions.



Relevant UN SDG's:

Sustainable Fibres

Both virgin and recycled fibres are needed for sustainable paper production. We are managing our forests and plantations against leading management certification schemes FSC® and/or PEFC™.

[Find out more on pages 32-39](#)

Material Efficiency

We participate in packaging recycling through our 38 paper recycling depots in Europe and the Americas.

[Find out more on page 36](#)



#4

WE CONTINUALLY IMPROVE OUR MANUFACTURING

Our network of over 350 operations share best practice to deliver our sustainability targets and we require the same standards from our suppliers.



Relevant UN SDG's:

Our Operations

We focus on reducing our CO₂ footprint, improving our water discharge quality and to eventually send zero waste to landfill.

[Find out more on pages 40-61](#)

Our Supply Chain

During 2018 we audited 73 suppliers through our seven pillar sustainable sourcing audit programme.

[Find out more on pages 30-31](#)



Our Strategic Priorities

ADDRESSING GLOBAL ISSUES

As a global Group our activities create sustainable value for our stakeholders and the communities where we operate.

OUR BUSINESS

UPDATED SUSTAINABILITY TARGETS

As we reached most of our long-term sustainability targets at the end of 2017, we have renewed our targets during 2018. The individual targets are aligned with the 2030 UN Sustainable Development Goals.

WINNING AWARDS

In 2018, Smurfit Kappa was recognised with over 50 national or international awards for packaging innovation, sustainability, design and print. The awards stretched across two continents and 11 countries. These included Argentina, Colombia, Czech Republic, France, Germany, Ireland, the Netherlands, Poland, Switzerland and the UK.

JOINING FORCES

Smurfit Kappa has joined up with the Plastic Soup Foundation in a partnership that will continue to stress the growing need for sustainable packaging.

ACQUISITIONS

- France: (2) Papcart and Caradec Box Plant
- The Netherlands: (1) Parenco.

DECONSOLIDATION

- Venezuela: all operations.

LISTING IN INVESTOR RATING SYSTEMS



#1 FOREST

FURTHER IMPROVING OUR FIBRE DUE DILIGENCE

As part of our commitment to continually improve our fibre origin due diligence and reduce risks for our stakeholders, we conducted an independent third-party evaluation of our fibre origin risk assessment systems.

Achievement

The evaluation recommended an update to our high-risk countries with an updated risk management procedure.

[Read more on page 38](#)

CHAIN OF CUSTODY CERTIFYING OUR PACKAGING

We are implementing forest Certification and Chain of Custody certification to guarantee origin traceability, and combining this with our fit-for-purpose design, our packaging solutions deliver with the best overall environmental footprint.

Achievement

In 2018, we sold on average 88.4% of our packaging as certified by FSC® or PEFC™ standards.

[Read more on page 37](#)

Safeguarding ecosystems through forest certification

43,000*

* Hectares FSC and/or PEFC certified



#2 CLIMATE CHANGE

NEW TARGET TO REDUCE CO₂ EMISSIONS

Setting ambitious goals helps us keep focused on our priority issues. In 2018, we reset our long-term Climate Change target to play our part in making the Paris Agreement a reality. Our extended fossil CO₂ emission reduction target has been increased from 25% (by 2020) to 40% (by 2030) and covers the specific emissions from our paper and board mills with the baseline year 2005. Additionally, we introduced an assessment of energy usage reduction opportunities in our corrugating and converting operations in selected countries by 2020 and with this information develop a target for these operations.

Achievement

By the end of 2018, we had realised a reduction of 29% in the fossil CO₂ emissions from our paper and board mills, exceeding our 2020 target.

[Read more on page 43](#)

We exceeded our 2020 fossil CO₂ emission reduction target

29%



#3 WATER

INTRODUCING A NEW COD REDUCTION TARGET

We focus our efforts on further improving the quality of the water we discharge and understanding the risks associated with water availability and use in the areas where we operate. In 2018, we increased our efforts in cleaner water discharge by moving from our 1/3 reduction of specific Chemical Oxygen Demand (COD) in water discharge (by 2020) to 60% (by 2025) from our paper and board mills that discharge to nature with the baseline year 2005.

Achievement

We reached a level of 33% reduction of COD and introduced a new target.

[Read more on page 53](#)

ASSESSING WATER MANAGEMENT RISKS

We have developed a water management risk assessment process that covers risks related to physical, regulatory and reputational risks as well as their management at our paper mills.

Achievement

In 2018, five more sites completed their water risk assessments.

[Read more on page 52](#)

Investments in water treatment
since 2005

€67 million



#4 WASTE

PLAYING A ROLE IN CIRCULARITY

We have a strong focus on innovation. Our products themselves are designed to prevent loss and damage to the consumer goods they protect. Packaging is produced efficiently and is 'right-weighted' to optimise resource use and minimise waste.

Achievement

At the end of 2018, we achieved a cumulative reduction of 7.3% against our commitment to decrease the waste sent to landfill by 30% by 2025, compared to the baseline year 2013.

[Read more on page 60](#)

BETTER PLANET PACKAGING

We are committed to actively engage with our customers and other stakeholders to increase recycling rates further. 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.

Achievement

Our Better Planet Packaging initiative drives new efficiency solutions for our raw materials while keeping them in the recycling loop.

[Read more on page 17](#)

Recovered paper collected from
communities for paper recycling

7.2 million**

** Tonnes



#5 PEOPLE

PEOPLE AT THE HEART OF OUR OPERATIONS

We want to empower all employees to reach our businesses objectives, including those employed directly and indirectly, and people whose lives we impact. We focus on individual merit, with a culture that supports and rewards entrepreneurial behaviour throughout our operations. Our objective is to be a great place to work and an employer of choice for our potential employees.

Achievement

With 46,000 people around the world, we continue to offer the chance to broaden their skillsets and knowledge, compensate fairly and maintain a good faith reporting policy.

[Read more on page 64](#)

NEW HEALTH AND SAFETY COMMITMENT

A safe and healthy workplace is a fundamental right for every person at Smurfit Kappa, and is 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, injury and exposure to health hazards for every employee and all sub-contractors.

Achievement

In 2018, we introduced a new Health and Safety commitment, the Total Recordable Incident Rate (TRIR), and reached a rate of 1.01%.

[Read more on page 70](#)

Social investments
made in 2018

€3.2 million

MAKING SOLID PROGRESS IN OUR SUSTAINABLE JOURNEY

Welcome to Smurfit Kappa's 12th
annual Sustainable Development Report.

I am delighted to report that the Group continued to make good progress during 2018 on its journey towards becoming a fully sustainable and circular business. Our long-term commitment to this goal is important, especially as the current global environmental, social and economic landscape is full of many uncertainties. Society faces numerous challenges and increasingly looks to companies like ours to address pressing social and economic issues. For our Group, such issues are vital, along with employee well-being, resource efficiency, climate change and, indirectly, the packaging litter in the oceans.

Part of our purpose is to contribute to long-term solutions to these issues and there are strategic business opportunities in doing so. Our paper-based packaging solutions are renewable, recyclable and biodegradable. They are designed to lower the environmental and fossil footprint of our customers' products, and over 50% of the energy used in our paper mills is based on renewable energy.



Often, our solutions are more economically viable than those using other materials. During 2018, we launched an industry-leading initiative called Better Planet Packaging. This initiative focuses on providing our customers with paper-based alternatives to packaging from less sustainable materials, which should eventually lead to reducing litter in the oceans.

Apart from meeting the needs of our customers through initiatives like this, we also want to generate superior returns for our investors. This enables us to invest in our people, the environment around us, the communities where we are privileged to operate and in the long-term sustainable growth of the business itself. Loyalty, integrity and respect are our guiding principles in doing this.

A NEW SET OF LONG-TERM SUSTAINABILITY TARGETS

By the end of 2017, we had reached most of the long-term sustainable development targets, set in 2012 – years ahead of schedule. During 2018, we therefore announced new targets for our five strategic sustainability areas: Forest, Climate Change, Water, Waste and People. With these new targets we are aligning the Group with the relevant UN 2030 Sustainable Development Goals.

OUR PROGRESS IN 2018

We continued to see progress during 2018 in the five strategic sustainability areas. Good progress was made again on Climate Change, reducing fossil CO₂ emissions by 29% compared to 2005. In relation to deliveries to customers, 88% were Chain of Custody certified, providing assurance, traceability and enabling end-to-end transparency across the supply chain.

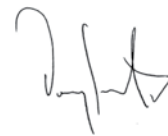
Looking at our water target, the Chemical Oxygen Demand reduction since 2005 was stable at 33% in comparison to 2017. Waste sent to landfill unfortunately increased by 3%. In Health and Safety we launched a new target to reduce the Total Recordable Injury Rate (TRIR) by 5% annually. In 2018 we recorded a TRIR of 1.01, which not only sets a new baseline but also reflects the progress we have made in this area over the last years.

Finally, we continued to be listed on various environmental, social and governance (ESG) equity indices, such as FTSE4Good, Euronext Vigeo Europe 120, STOXX Global ESG Leaders, and we were also included in Ethibel's sustainable investment register.

LOOKING AHEAD

We continue to see an abundance of opportunities to grow our business in a sustainable way and to reach our ultimate goal of becoming a fully sustainable and circular business. Developing sustainable packaging solutions for our customers, replacing less sustainable materials as part of the Better Planet Packaging initiative, is just one such opportunity. Solutions that decrease the fossil footprint of customers' products is another. In 2019, we will also continue to invest in developing our people and in making our production process even more sustainable and more circular through investments in energy efficiency, improving water discharge and decreasing our waste sent to landfill.

I hope you find the content of our Sustainable Development Report 2018 interesting and informative and look forward to your feedback (sustainability@smurfitkappa.com).



Tony Smurfit
Group Chief Executive Officer
16 May 2019

Extending our 2020 Targets

Our new sustainability targets focus on five strategic areas and are designed to align the Group with the UN 2030 Sustainable Development Goals.

		Previous Target	Updated Target
FOREST		2020 Target 90% of packaging solutions sold as Chain of Custody certified to customers	Continuous Target 90% continue to operate at this level
CLIMATE CHANGE		2020 Target 25% reduction in fossil fuel emissions intensity	2030 Target 40% reduction in fossil fuel emissions intensity
WATER		2020 Target 33% reduction in Chemical Oxygen Demand intensity	2025 Target 60% reduction in Chemical Oxygen Demand intensity
WASTE		2020 Target 30% less waste to landfill	2025 Target 30% less waste to landfill
PEOPLE		2013 - 2018 Target 5% reduction in Lost Time and Injury Rates annually	Continuous Target 5% reduction in Total Recordable Injury Rate annually

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.

Stakeholders' opinions are essential to how we develop our business and innovations. 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, enabling 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, Ecovadis, FTSE4Good and Sedex surveys, and benchmarking; and 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; and
- **Affect:** 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.

How we engage with our stakeholder groups has been further explained on pages 12 to 13.

CASE STUDY

BRINGING THE SUPPLIERS ALONG WITH MODERN SLAVERY ACT

In 2015, the UK enacted the Modern Slavery Act 2015, to make provisions in relation to slavery, servitude and forced or compulsory labour and about human trafficking, including provision for the protection of victims.

The Act requires the Group, including the UK operations, to consider the measure in place in our own operations but are also required to consider our suppliers' practices.

"At first everyone assumed it was just a matter of HR procedures, but we soon realised that working with our suppliers added complexity," says Maria Ryan, Head of Human Resources at Recycled Paper West, UK, the paper-producing division of Smurfit Kappa UK. "I could easily verify that we were in order, of course, but the supply chain audit involved a lot of input from other departments, especially purchasing and compliance. No-one had anticipated all the cross-divisional and cross-functional work it would require."

Departments found they had to ask quite intrusive questions of suppliers and contractors who had been with us for decades.

For example, 'How do you verify the age of your workers?', 'What is the lowest rate of pay for a trained member of staff?' as well as questions about accommodation conditions and rights to leave the job.

Fortunately, Maria had good contacts with an organisation that was used to getting supplier compliance with a wide range of standards – SK UK Corrugated division. Says Maria, "We're an inward-facing division – all our product is used by the Group. But Corrugated face a lot of customer audits, and had great expertise in how to make the process much easier."

Liz Neal, HR Manager at the Cambridge corrugated site, became a partner to the Paper division. Liz organised the work with outside organisations, carrying our risk assessments and audits. "I wanted to make it clear that my team wasn't there to give our suppliers a slap on the wrist – we want to

support them in good practice. So, if the suppliers didn't have a whistleblower policy, we'd supply them with a template, for example." Liz said, "The idea was to collaborate and create commitment."

"We did a lot of work with labour agencies – our people were trained in helping them make sure they had good induction records, safety information, staff training policies and so on." The agencies welcomed Smurfit Kappa's support, and found it so useful they rolled it out with other clients. "That's what I like to see," says Maria. "At Smurfit Kappa, we don't just want compliance, we want commitment!"


"At Smurfit Kappa, we don't just want compliance, we want commitment!"

Maria Ryan,
Head of Human Resources
Recycled Paper West, UK



Stakeholder Engagement continued

The ways in which we collaborate with our stakeholders in our three focus areas: circularity, innovation and inclusiveness.

Who We Engage	How We Engage	How We Include Our
		 <p>Circularity</p>
CUSTOMERS	<ul style="list-style-type: none"> • Regular business • Meetings at our Experience Centres • Customer conferences • WBCSD membership • Awards and competitions run by customers 	<ul style="list-style-type: none"> • Packaging solutions that enable safe delivery • Packaging solutions that cut waste and improve recyclability
INVESTORS	<ul style="list-style-type: none"> • Investor days and conferences • One-to-one meetings • ESG ratings by rating agencies • Feedback from sustainability analysts • Queries directly from investors 	<ul style="list-style-type: none"> • Through our circular business model lowering costs and increase efficiency and revenue
EMPLOYEES	<ul style="list-style-type: none"> • My Voice engagement surveys • Day-to-day interactions • Works Councils • Social committees 	<ul style="list-style-type: none"> • Circulation of talent and ideas across operations and geographies
COMMUNITIES	<ul style="list-style-type: none"> • Participation in local initiatives • Supporting social investment projects 	<ul style="list-style-type: none"> • Careful research and creating win-win solutions through closed material loops • Support local business ecosystems
SUPPLIERS	<ul style="list-style-type: none"> • Supplier sustainability audits • Participating in the development of Forest Certification as member of FSC and PEFC • WBCSD membership 	<ul style="list-style-type: none"> • Sharing our sustainability knowledge • Identifying opportunities to increase circularity and add value across the value chain



Circularity

Working with a circular business model means involving our stakeholders at all stages and adding value to each one.





Innovation

Creating a business environment that enables innovation ensures that we and our customers operate at the cutting edge.



Inclusiveness

To deliver innovative and circular solutions we believe an inclusive approach works best. Employees, customers, investors, suppliers and local communities all have a part to play.

Stakeholders Across Our Key Focus Areas		Key Activities in 2018
 Innovation	 Inclusiveness	<ul style="list-style-type: none"> Better Planet Packaging launch (see page 16) At the end of 2018 our delivery of certified packaging reached 90.5% (see page 37) Local Sustainability Awards were held throughout Europe during the year Improved environmental performance Fossil CO₂ reduction by 29% (see page 43) COD discharge reduction by 33% (see page 53) Waste sent to landfill reduced by 7.3% (see page 60) Launching our EveryOne and Diversity programme to make sure that each of us feels supported, accepted and respected in our daily work (see page 68) Introducing total recordable injury rate as a key target (see page 70) €3.2 million in social investments (see page 72) 4,600 hours volunteering 68,000 people impacted 99.9% of our fibre produced and purchased as Chain of Custody certified (see page 33) 73 supplier audits (see page 31)
<ul style="list-style-type: none"> Fit-for-purpose, eco-design packaging 	<ul style="list-style-type: none"> Benefits of our solutions to include all in the value chain 	
<ul style="list-style-type: none"> Sustainable packaging innovations deliver an attractive return on investment 	<ul style="list-style-type: none"> Reduce reputational risk Streamline supply chains to reduce CO₂ and minimise waste 	
<ul style="list-style-type: none"> Pay and participation are balanced in a safe and healthy workplace Talent development supporting creative ideas 	<ul style="list-style-type: none"> Make employees feel included and appreciated as part of a team Health and Safety policies align with OHSAS 18001 Safety culture from home to work 	
<ul style="list-style-type: none"> Cross-industry collaboration helps to deliver financial and environmental benefits, such as reducing waste to landfill 	<ul style="list-style-type: none"> Share value from Smurfit Kappa business growth to local communities Encourage employee volunteering 	
<ul style="list-style-type: none"> Encouraging our suppliers to be innovative about products and processes Helping test and optimise solutions before they go to market 	<ul style="list-style-type: none"> Wherever possible, procuring products and services from local suppliers Keep finances flowing through local economy 	

ASSESSING 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 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.

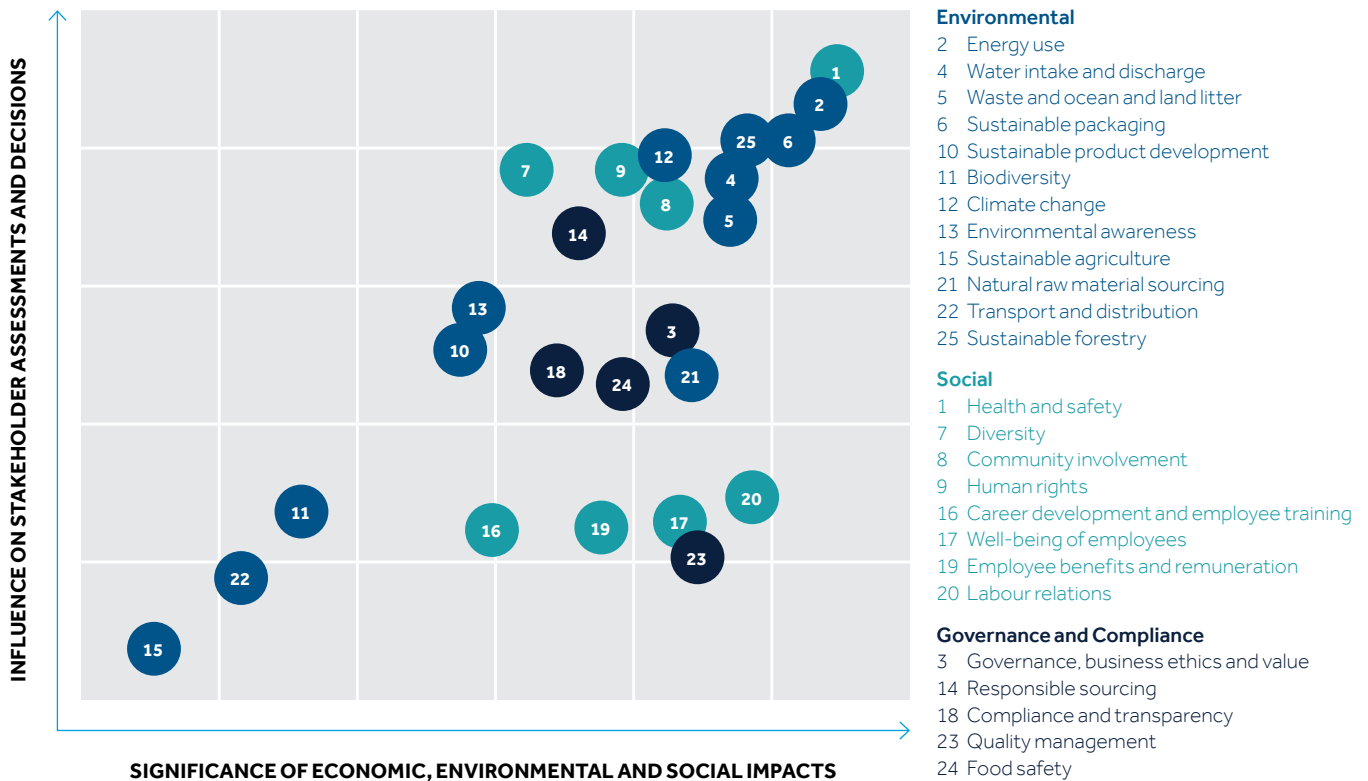
This way we are able to limit the issues we report and measure only those on which we have a direct impact through our activities.

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.

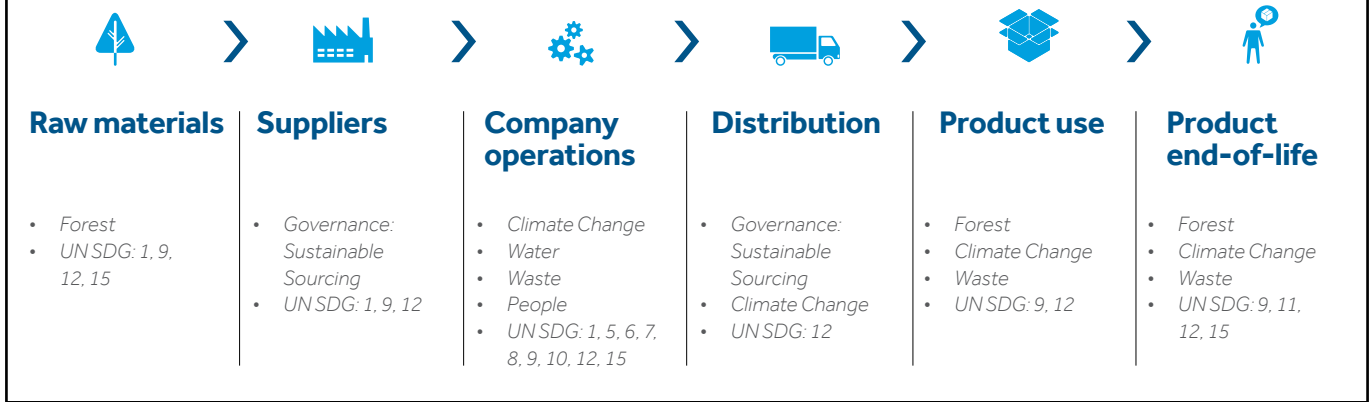
We review these material aspects and processes against external developments such as emerging regulation, environmental standards and approaches to certification. Additionally, we extend and refresh our knowledge by working with peers on collaborative projects. How we do this is explained in Ethically and Responsibility (pages 28-31).

Material Aspects Facing Smurfit Kappa



Smurfit Kappa Sustainability Impact Through Value Chain

(material topics in italics)



UN Sustainable Development Goals (UN SDG):



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 reviewed the materiality assessments undertaken by each of them, and tested 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.

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 in 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; and
- *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 Responsibility (pages 27-31).



BETTER PLANET PACKAGING

"As the industry and wider world wrestle with single-use plastic waste and the relationship of packaging with the environment, Smurfit Kappa has been rethinking its own engagement with the sustainability challenge.

We started a journey to develop sustainable, paper-based packaging alternatives with a positive focus on end-of-life scenarios. As a leader in our field we are part of the agenda, but honestly, we don't yet know where this journey will end."

Arco Berkenbosh,
VP of Innovation and Development

At Smurfit Kappa, as a leader in sustainable packaging we believe we have a responsibility to respond to the challenge facing the environment and society today – to reimagine more sustainable packaging solutions.

This is why we have introduced our Better Planet Packaging initiative which sets out to create more sustainable packaging solutions and, ultimately, reduce packaging waste. The fundamental problem with packaging waste is litter and we will use our strength in sustainable materials, packaging design, packaging recycling and industry-leading expertise to develop more sustainable packaging solutions for our customers.

A large part of our Better Planet Packaging initiative involves ensuring packaging materials are recycled effectively and do not end up as litter. We are confident that, if waste is collected in a controlled way, we can apply all the innovation and Research and Design resources we have, in the packaging industry and beyond, to reduce the chance of this happening. Paper packaging is recyclable, renewable and has consistently had the highest recycling rate in recent years. Even if it does end up as litter, it is still biodegradable and, from a consumer perspective, anything from newspapers to corrugated can go into the same stream. We have the obligation to share what information is necessary to make the recycling system work.

We also contribute to a world without waste by supporting the concept of circularity. As part of that, we play a role in collecting used packaging and recycling these fibres in our closed-loop business model. According to Eurostat, the paper-based packaging collection rate has reached 92.5% and fibre recycling rate 85%.

With Better Planet Packaging, we accelerate and bring a new dimension to our core business but we cannot do this on our own. Smurfit Kappa will collaborate with new and existing partners to inspire new ideas and encourage change. We will instigate meaningful discussions and action on how we can all be more sustainable in our design and use of packaging.

Delivering on the Better Planet Packaging ambition will only be achieved by ensuring our colleagues understand the role we want to play in addressing this global issue. As part of this, with our employees, we have launched 'BPP (Better Planet Packaging) Starts With Me', to ensure that, as a Company, we are working hard towards removing plastics in our daily work life.

We are already working with our customers to create new and alternative solutions for unsustainable packaging, especially in the area of plastic substitution (not only single-use). We design paper and packaging solutions that are fit-for-purpose, efficient and favoured by customers but that are also renewable and recyclable.

WE RE-THINK HOW SUSTAINABLE PACKAGING IS DESIGNED



MATERIALS

Recycled or reused materials should be used where possible. If applications require virgin material, they should come from sustainable and renewable resources that are not used for food applications.



PRODUCTION

Aiming to produce packaging with the lowest carbon, waste and water footprint. Production is done in a socially and ethically responsible way.



SUPPLY CHAIN

Packaging should be designed to only bundle and protect the product in the entire supply chain. Any other functionality (marketing) should be added with minimal impact on the environmental footprint.



END-OF-LIFE

Sustainable packaging should not harm our planet in any end-of-life scenario. Sustainable packaging should be collected and recycled. If it becomes litter it should have no negative environmental impact.

TRANSPORTING FRESH SALMON IN A 100% PAPER-BASED SOLUTION, CHILE

OPPORTUNITY

Traditionally salmon is packed in polystyrene trays. However, these trays are not printed and so have no means to communicate to the consumer about the premium product inside. They require a lot of storage space and are not-recyclable.

SOLUTION

SK Chile designed a corrugated board solution that delivers multiple benefits. The paper-based solution can be delivered flat to the salmon producer and erected onsite which means less storage

space. Due to the strength and compression qualities of the corrugated material, the new tray is also more resistant to damage.

The new tray has the same quality as the polystyrene solution in keeping the salmon chilled during transport but because the paper can be printed the packaging can now be used for marketing communications. On top of that, an additional benefit is that the packaging is now fully FSC certified.



NOR-GRIP IS A SUSTAINABLE PAPER-BASED ALTERNATIVE TO SHRINK FILM ON BOTTLES

OPPORTUNITY

Shrink film is used to bundle together bottles, such as soft drinks, cooking oils, bottled water and detergents. With 75% of consumers preferring paper-based packaging over plastic*, many global brands have approached Smurfit Kappa to provide recyclable alternatives for single use plastics such as shrink film.

CHALLENGE

Brand owners require sustainable packaging alternatives that meet the primary customer need – performance and ease of handling from shop to home.

PAPER-BASED SOLUTION

Smurfit Kappa has developed a portfolio of products to replace plastic multi-packs starting with the innovative Nor-Grip solution. Tested extensively, the Nor-Grip solution is robust enough to carry the heaviest loads throughout the supply chain ensuring an excellent customer experience from shop to home.



* Studies were performed for a well-known brand on 1.200 consumers across Europe

100% PAPER-BASED BLUEBERRY TRAYS, ELIMINATE PLASTIC, ARGENTINA



CHALLENGE

Berries del Plata, a fresh fruit producer in Argentina used to export their blueberries in plastic clamshells which were then placed inside a corrugate tray. In a bid to reduce costs they moved away from the clamshells and replaced them with plastic bags. However, Berries del Plata continued to look for a solution to eliminate plastic from their supply chain entirely, both to reduce their environmental footprint and decrease logistics costs.

APPROACH

Smurfit Kappa worked closely with the Berries del Plata team and, with a only a slight yet critical modification in the design of the tray, were able to remove the need for the plastic bags and by doing so also increased the

amount of blueberries the tray could hold by 50%. The innovative pack, which is automatically assembled, protects the fruit throughout the supply chain and reduces logistics costs. The bespoke print increases brand visibility.

RESULT

The 100% paper-based solution is recyclable and biodegradable and meets all of Berries del Plata's packaging requirements. Through the optimisation of the pack, the overall cost (US dollar/kg) was significantly reduced giving estimated annual savings of 161,000 US dollars by reducing labour and freight costs. This excellent pack earned Smurfit Kappa two top spots at the prestigious Estrella del Sur packaging awards in Argentina.

CARDBOARD PROTECTION FOR FERROLI BOILERS, ITALY

OPPORTUNITY

Eight polystyrene inserts were needed to protect the water boilers in their packaging during transport and storage. However, polystyrene cannot be recycled and makes packaging waste disposal difficult.

SOLUTION

A mono-material packaging solution developed by Smurfit Kappa Italy which requires only four corrugated inserts, that

provide extra protection and more strength than the existing solution. The top and bottom flaps of the box are used to buffer and lock the boiler in place, saving materials, logistics and warehouse costs. The packaging is very easy to dispose of, which helps make Ferroli boilers an installer's preferred choice.



A STEP TOWARDS SUSTAINABLE AGRICULTURE: AGROPAPER™, SPAIN

OPPORTUNITY

As the population continues to grow, the pressure on agriculture intensifies. To improve crop yield, farmers often use mulch to conserve the water and health of the soil. This method improves productivity and removes the need to use herbicides. However, some farmers use plastic in their mulching process as this can act as a barrier to keep the minerals in the soil.

Unfortunately, only a small share of this plastic is collected and recycled from the field. In most cases plastic film stays on the field, is mixed with the soil, and becomes a pollutant.

SOLUTION

AgroPaper™ is a 100% paper solution to replace the plastic mulching film. AgroPaper™ mulching sheet provides the same properties for the farmers as the plastic film does. However, as it is made from biodegradable fibres, it eventually degrades in soil without leaving harmful residues behind. AgroPaper™ comes with another benefit: as it has been made from renewable, organic raw material, it – according to research – can improve and optimise production and efficiency of cultivation.

The AgroPaper™ solution can be applied on the fields with same equipment as the old plastic solution. Plants can be sown on soil directly after placing the AgroPaper™ and it can be used both on outdoor cultivation and in greenhouses. The paper solution offers a specific environmentally positive cost saving to the farmers as it does not need to be removed and the qualities of the paper may improve crop cycle for some products.



PIZZA DISCS FROM PAPER, UK

PROBLEM

Polystyrene is not recyclable, and foam disc alternatives provided by major suppliers are also not recyclable.

SOLUTION

The new paper-based discs can be made from corrugated, solid

board or folding carton, each one being 100% recyclable and biodegradable. Since the start of the project Smurfit Kappa has produced 250 million discs. The new robust base is ideal for transportation, storage and display.



PAPER SACKS FOR CHOCOLATE, COLOMBIA

OPPORTUNITY

F&M Chocolates SAS in Colombia produces chocolate mainly for industrial customers in the bakery, confectionery, ice-cream and dairy sectors. It produces 1,200 tonnes chocolate per year which is distributed in plastic sacks, which were not environmentally friendly. F&M Chocolates SAS decided to make a change in its environmental policy to move to paper-based packaging across chocolate and other product categories at the same time. As Chocolate is sensitive to oil migration and has a smell, it needs packaging that would have a sufficient barrier to prevent both.

SOLUTION

We discovered that a paper packaging solution that was being used for smaller, snack size chocolate could be replicated as sacks suitable for the industrial customers. The solution would be a multi-layer sack in



which the chocolate flakes could be easily packed. The solution delivered multiple benefits: the sack form of packaging as preferred by the customer and at a lower cost than the original plastic solution. The new paper sack also has an easy opening that makes it easy for the industrial customers' to use at their sites when pouring the chocolate into their kettles. Ultimately, the solution helped to reduce use of plastic.

BAG-IN-BOX, BULLDOG, UK

PROBLEM

Current bottles are plastic and non-recyclable.

SOLUTION

A refillable shower gel pack. This can hold the equivalent of 25 shower gel bottles, in a box made of recycled cardboard. The box can feature large communication with a tap for easy dosing. This resulted in reducing 60% of plastic from packaging.



THIRIET ICE CREAM ACHIEVED A 37% COST SAVING BY SWITCHING TO A MORE SUSTAINABLE SOLUTION, FRANCE

CHALLENGE

Traditionally Thiriet, the third largest manufacturer of ice cream in France used multiple packaging materials for their product 'Omelette Norvégienne' including an aluminium tray, a polystyrene bottom and hood, a carton sleeve and a paper sticker which caused a logistics challenge in their operations, resulting in a loss of efficiency and increased handling costs.

APPROACH

Working in collaboration with the client, Smurfit Kappa developed a solution based on corrugated

materials with specially treated paper on the inside making it resistant to extreme temperatures and allowing contact with food.

RESULT

Smurfit Kappa's innovative solution resulted in a decrease of 488 pallets per year with a cost saving of 37%. Thiriet also achieved an 11.5% growth in sales volume and delivered a more efficient, sustainable and cost-effective production process resulting in a 40% reduction in CO₂.



OUR APPROACH TO SUSTAINABLE BUSINESS

Sustainability creates long-term business value. As one of the world's leading providers of paper-based packaging, we recognise our role in driving the use of sustainable packaging solutions.

To demonstrate our commitment to circular economy principles, sustainability sits at the heart of our business model, strategy and global operations.

A CIRCULAR APPROACH TO SUSTAINABILITY

Packaging plays a vital role in our customers' supply chains. Our innovative solutions allow a wide variety of products to be marketed, sold effectively and delivered safely, without damage or theft.

The importance of fit-for-purpose packaging has been highlighted in a study by the Food and Agriculture Organisation of the United Nations (FAO), which found that developing countries waste 20-50% of their food through inadequate packaging. We seek to alleviate this by providing fit-for-purpose, innovative packaging solutions to our customers.

Paper-based packaging remains the most versatile and sustainable option, offering the highest recycling rates of any packaging material (Eurostat). Our innovative packaging solutions reduce the use of raw materials helping

customers deliver their sustainability objectives. Beyond this, our efforts help to mitigate climate change and reduce our own inefficiencies, whilst also satisfying customer demand.

CREATING VALUE FOR OUR STAKEHOLDERS

We create innovative solutions to incorporate sustainability across our supply chain, covering over 350 production sites and 35 countries. Our scale and resources enable us to drive the adoption of sustainability in our industry and bring benefits to each of our stakeholder groups.

Surveys by the Confederation of European Paper Industries have shown an increased awareness of environmental issues in packaging, with over 80% of European and American consumers preferring paper-based packaging. Our solutions help our customers respond to these trends and deliver their own sustainability goals.

At Smurfit Kappa we collaborate with many suppliers across our value chain. It is important to us that all of our suppliers align with our values and standards. Therefore, our audits cover topics such as human rights, labour practices and environmental impact. We also require all

suppliers to adhere to our Sustainable Sourcing Policy and our Supplier Code of Conduct, and we expect Chain of Custody certification where applicable.

For many investors, environmental and social responsibility is now just as relevant as long-term, sustainable profit. The 2016 UN Global Compact-Accenture Strategy CEO Study – representing more than a decade of research on sustainable business – revealed that 88% of investors see sustainability as a competitive advantage. We demonstrate our commitment to the many investor ratings and disclosure programmes we participate in. These include Ethibel, FTSE4Good, Euronext Vigeo Index, STOXX ESG Leaders, CDP, Sedex and Ecovadis.

We are proud to have received both customer awards and investor recognition for our sustainability performance. This recognition demonstrates that our stakeholders see the link between sustainable business and corporate value.

Sites CoC certified

100%

Packaging concepts

>7,500

Reduction in fossil CO₂ emissions in 2018

29%

We Are Involved at all Stages of the Supply Chain

We believe that an integrated model from the sources of fibre to end products is the most efficient way to provide innovative packaging, logistics solutions and high-quality service to our customers.

Sustainable Sourcing of Virgin and Recycled Fibres

We balance the use of virgin and recovered fibres to maintain a positive and sustainable balance of renewable raw materials. We provide recycling services to ensure both our customers' corrugated packaging and paper is recycled responsibly, efficiently and reliably, and that we have access to quality raw material. We have embedded certified Chains of Custody throughout our fibre sourcing and operations. This means that close to 100% of our fibrous raw material comes from sustainable and/or certified sources regardless of whether it is virgin or recycled.

Our circular business model, from replacing natural resources to reusing materials and optimising processes, gives us a competitive advantage.

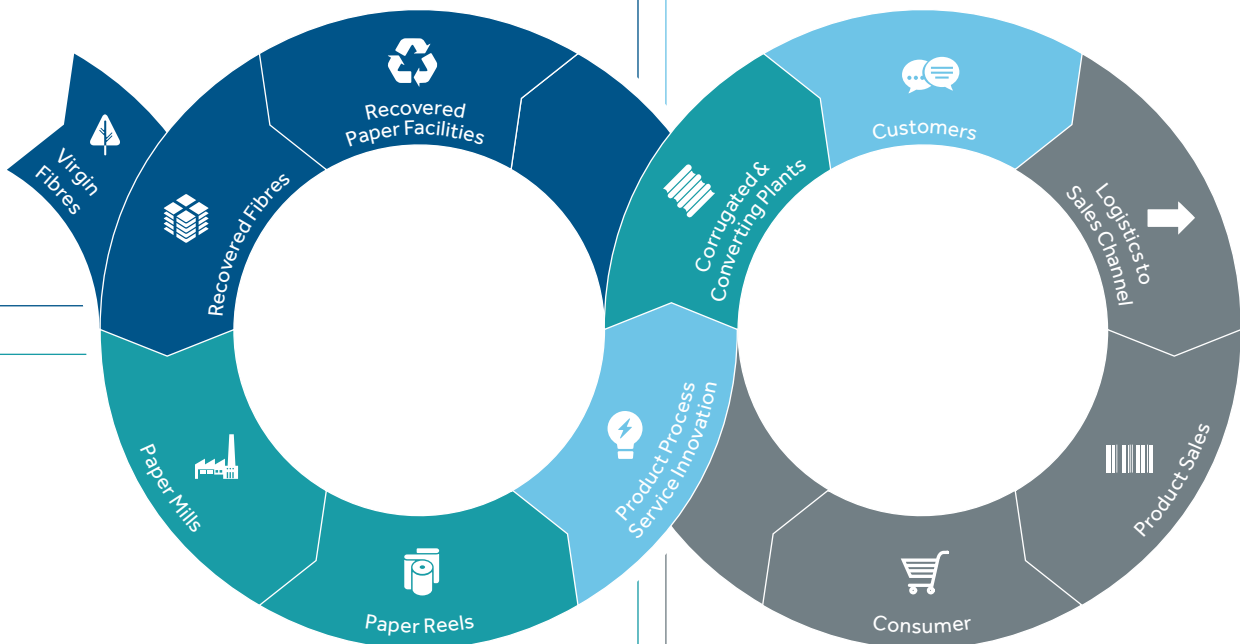
Read more in our Forest section, pages 32-37

Product Design and Development

We are a highly innovative, design-led company. Our approach to innovation is data-driven and focused on solving our customers' challenges, whether through product development, process improvement or optimising supply chain efficiency. We have a supporting network of laboratories, facilities and applications to help us create fit-for-purpose, sustainable packaging solutions.

With over 1,000 designers across our business and over 7,500 packaging concepts, we use cutting-edge technology to provide innovative designs in packaging and display for our customers.

Read more about Smarter Sustainable Solutions overleaf and our Focus on Innovation on page 26



Responsible and Efficient Manufacturing

We manufacture a range of papers mainly used for packaging purposes. Our recycling, wood procurement and forestry operations provide raw material to our mills, which is processed into paper primarily for our corrugated converting plants. Our integrated system of mills and plants also produce a full line of containerboard which is converted into corrugated containers.

We currently produce 5.9 million tonnes (11.0 billion m²) of corrugated packaging using most of the 6.4 million tonnes of containerboard produced within our own mill system.

Read more in our Climate Change, Water and Waste sections on pages 40-65 and page 36 of our Annual Report.

Distribution

Our end customers are primarily in the corrugated packaging market. Demand for consumer staples, and by extension demand for our products, is resilient, especially during periods of economic downturn.

We are working towards the inclusion of data on CO₂ emission reductions in our transport related supply chain decisions and making our efforts to reduce the carbon footprint from transport tangible.

Between 60-70% of our corrugated customers are in the fast moving consumer goods (FMCG) sector which includes food, beverages and household consumables.

Read more about emissions from transport in our Climate Change section on page 47.

SMARTER SUSTAINABLE SOLUTIONS

TAKING A HOLISTIC APPROACH

Sustainability sits at the centre of our business strategy, as demonstrated in the diagram below. Through our holistic approach, we ensure that sustainable solutions can add value to our customers. Our experienced team provide a wealth of expertise, innovative ideas and industry links, working closely with customers to develop new solutions within their supply chains.

As part of our sustainability focus, we have conducted a materiality assessment to determine our priority areas and set key goals. Each of our priority areas have been aligned to the UN Sustainable Development Goals. This has helped us to understand the areas where we can have a positive effect on the environment and society and where we can mitigate any potential negative impact. Our five identified

priority areas are: Forest, Climate Change, Water, Waste and People.

We have also identified that sustainability influences our operations in three key ways – embedding circularity, driving innovation and promoting inclusivity – and have expanded on each in the diagram below.

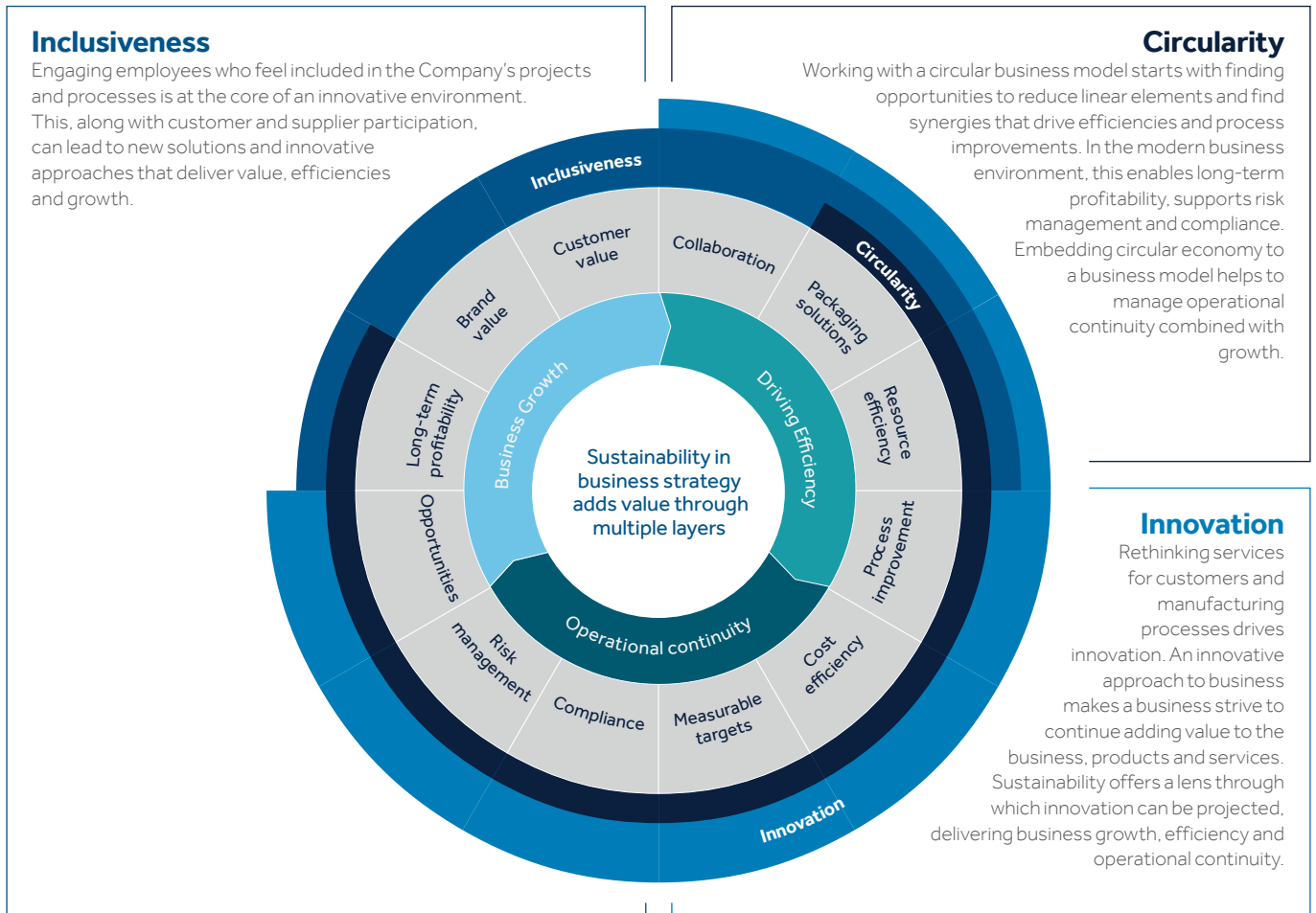
EMBEDDING CIRCULARITY

Circularity means knowing where our material comes from and that it returns to the production cycle without being lost. As a business dependent on natural resources, we strive to make our operations restorative through our circular business model. We source natural materials responsibly and work to replace and reuse resources where possible. We are constantly collaborating with our stakeholders to find new solutions to deliver better outcomes.







Our raw material – wood-based fibres – is the starting point of our circular business model. We work with 100% renewable, sustainable materials, and they are then recovered for recycling. 75% of our raw material is recycled fibre. Paper-based packaging has the highest recycling rate of all packaging materials, with wood fibre capable of being recycled up to eight times before new fibre needs to be introduced. When we balance the use of virgin and recovered fibres, we maintain a positive, sustainable balance of renewable raw material circulation.

Forests are fundamental to local climate and water cycles and important for providing raw materials that drive industry and employment. We manage our forests on three sustainable development principles: promoting economic growth, using natural resources responsibly, and

How Sustainability in Strategy Affects Business



Circular Aspects of Our Products

Impact of our Products	Direct Impact	Indirect Impact
IMPACT 1 REDUCE 	<p>Ensuring that resources are maximised and material waste is minimised by offering fit-for-purpose packaging solutions that optimise the use of packaging materials. Where possible, we produce lighter grammage papers which require less fibre.</p>	<p>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.</p>
IMPACT 2 REUSE 	<p>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 multiple times, before treating it for discharge.</p>	
IMPACT 3 RECYCLE 	<p>75% of the raw material we use consists of recycled fibres. All paper-based packaging we produce is recyclable.</p>	<p>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.</p>
IMPACT 4 RECOVER 	<p>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.</p>	<p>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 such as black liquor and biogas wherever possible, and circulating heat. We also seek synergies with our neighbours where possible.</p>
IMPACT 5 RENEW 	<p>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.</p>	
IMPACT 6 BIODEGRADE 	<p>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.</p>	

fostering social equity wherever our plantations and forests are located.

Independent third-party certification is the most reliable means to promote sustainable forest management and combat deforestation. 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 Group our size. All of which demonstrates the sustainable loop of our raw material usage.

As we move through the production process, we find alternative uses for the by-products of our paper-making processes where appropriate. For example, we collaborate with local organisations to pass on extraneous materials – metal, plastic, textiles, wood and sand – and use organic by-products as biofuel. This process ensures

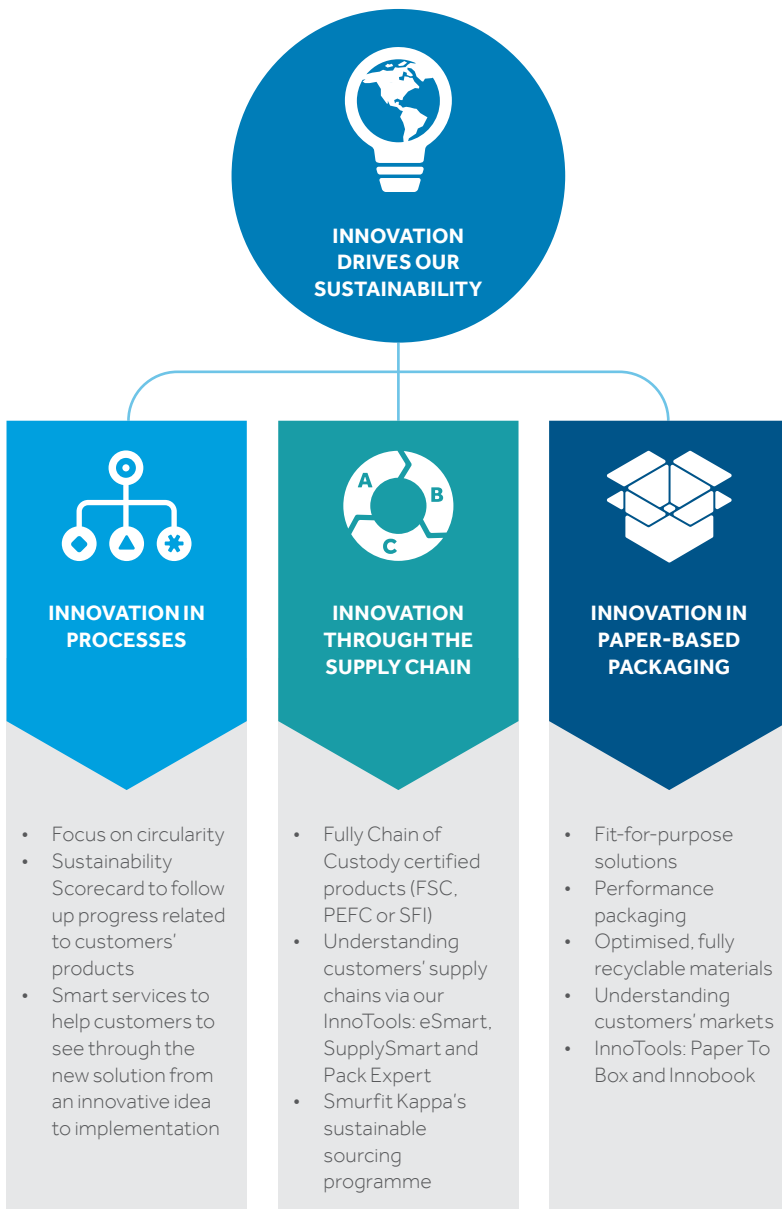
we are closing the loop on resource use while creating new opportunities for local businesses. Beyond this, we partner with other sectors, such as the chemical, medical and pharmaceutical industries, which have uses for the turpentine and tall oil we extract during virgin paper production.

The circular aspects of our products have been explained in the table above.

OUR FOCUS ON INNOVATION

Innovation is not only central to our own operations, but a vital consideration within our supply chain and the solutions we provide to our customers.

Smarter Sustainable Solutions



FACT-BASED INNOVATION

As part of our product and process development, we use engineering-based thinking to analyse customer challenges and find creative solutions for specific products and markets. Our three avenues to smarter sustainable solutions are explained in the diagram to the left.

To drive innovation for our customers and suppliers, we examine the entire packaging concept to develop a more appropriate, sustainable solution. We also consider changing customer preferences, demographics, regulatory developments and other competitive forces. By optimising both primary and secondary packaging, we can deliver efficiencies in transport, storage and display.

Our virgin and recovered-fibre based packaging is the result of considerable innovation; designed to minimise resource use, reduce environmental footprint and use material sourced through certified Chain of Custody fibre origin management systems.

The effective monitoring and publishing of our sustainability data over the past decade has enabled us to discover new approaches to packaging and supply chain management. It also offers data against which we can evaluate the impacts of our new ideas. Our data is collected and reported in accordance with the Global Reporting Initiative (GRI), assured by an independent third-party assurance provider (see page 104) and rated through platforms such as Supplier Ethical Data Exchange (Sedex).

Through our services, Smurfit Kappa customers also have access to our web-based suite of design software – InnoTools: InnoBook, Paper To Box, Pack Expert and ShelfViewer – for robust evaluation of their value chain.

WORKING EXCLUSIVELY

Our people are fundamental to Smurfit Kappa and our ability to provide quality, sustainable solutions to our customers. We also seek to support the people and communities who we impact through our operations.

ENGAGING OUR PEOPLE

To effectively engage with our employees, we aim to align everyone with the key principles that shape our global and local activities. These include:

- maximising value for customers;
- delivering operational excellence through training and learning;
- focusing on Health and Safety; and
- promoting development, inclusion, empowerment and diversity.

We report on our achievements in this area annually in our People section. We also outline our employee engagement process through MyVoice on pages 66-67.

As well as supporting our talent internally, we seek to improve lives and empower people in the communities in which we operate. We do this by promoting equal opportunities, education, care for disadvantaged children, health, safety and economic development. As well as our social and community commitments, we fund scientific studies on environmental and biodiversity issues. For more information on our commitments and impacts, see page 72.

For all other stakeholder groups, we ensure our activities are transparent. Mills and plants have an open-door policy for different stakeholder groups.

INCLUDING OUR STAKEHOLDERS

Innovation and a circular business model do not happen in isolation. Therefore we actively engage with our stakeholders: customers, suppliers and communities to find new solutions and ways to operate. We believe there are many benefits from an ongoing discussion with everyone and our ambition is to find synergies where we can.

Partnering with customers and Customer Relationship Management helps us better understand their challenges. Part of our data is so-called 'silent data' that comes through discussions and visits to our customers and their customers locations and understanding customers' processes and in collaboration, identifying opportunities, for example, through research and development discussions.

Our suppliers' product development is dependent on our feedback and we consistently seek opportunities to be involved where we can. Our sustainable sourcing programme is based on seven pillars of which in particular quality, manufacturing and service and technical support can be seen as opportunities to create synergies. Our programme is based on continual development and we support our suppliers where needed.

To be able to expand our circular approach at our manufacturing sites, we continually seek dialogue with our neighbours and communities. This way we can find opportunities for resource efficiency, such as synergies in water treatment processes or biobased fuels. In water treatment we have found collaboration, for example, in nutrition exchange in biological waste water treatment where we use phoborum from baby food industry. Our waste water treatment plants can also send their sludges to other water treatment plants where they work as starters of biological treatment process. Our water discharge can on the other hand function as a good input in the municipality water treatment plants.

Donations made in 2018

€3.2 million

InnoTools used in 2018 (times per day)

10,000

Experience Centres Globally

26

ETHICALLY AND RESPONSIBLY

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

EFFECTIVE 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. This section outlines Smurfit Kappa's approach to governance in terms of sustainable conduct. We expect the same standards of conduct from our suppliers, and this section also summarises our approach to supplier compliance. For further information on corporate governance, see pages 60-86 of the 2018 Smurfit Kappa Group Annual Report.

SUSTAINABLE LEADERSHIP

The overall responsibility for ensuring the Group demonstrates leadership within the paper-based packaging sector, promoting an actionable sustainable development agenda, lies with the Board. In addition, the development and implementation of the Group's sustainability strategy, objectives and policies are managed by the Group Executive Committee led by the Group CEO.

The Executive Committee is supported in this work by a Sustainability Working Group. This is led by our Group Vice President Development and includes key representatives from operations in Europe and the Americas. The Working Group primarily monitors the implementation of the Group's sustainability strategy and ensures that targets are met across all material areas. It also promotes sustainability targets among our customers, suppliers and corporate peers.

COMPLIANCE WITH REGULATIONS AND GUIDELINES

It is Group policy to comply, at a minimum, with the relevant laws and regulations in the countries we operate in. We ensure our employees are aware of relevant guidelines and conduct themselves accordingly. Reflecting this, during 2018 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. Information about our voluntary actions in legal and regulatory matters can be found in the section Our priorities and performance on pages 32-73. Our entire Sustainable Development Report is assured by KPMG and aligns to the 'Comprehensive' level of the GRI Standards.

In addition, each significant business unit is subject to an annual external and independent financial audit conducted by the Group's external auditors. Most of our business units are subject to local statutory financial audits. The Group also has an Internal Audit function which, during 2018, performed 75 detailed internal financial and IT audits.

Beyond compliance, 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. Our Group CEO is a member of the European Round Table of Industrialists (ERT).

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 2018. In line with the Group's Code of Business Conduct, no financial contributions were made to political parties in 2018. No national government is a direct investor in Smurfit Kappa.

OUR KEY POLICIES

The Smurfit Kappa Group Code of Business Conduct (the Code) applies to the Board of Directors, officers and employees, as well as all individuals, entities, agents or anyone acting on the Group's behalf. The Code is available in 17 languages to ensure accessibility and worldwide compliance.

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

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

The Code provides accessible and understandable guidance for employees in every jurisdiction. Each Smurfit Kappa company and its employees are required to apply the Code, as well as abiding by the laws and practices of their industry and the jurisdiction in which they operate. It makes clear that personal and professional integrity is essential to conducting business in an ethical manner. The Code also expects adherence to ethical standards, and commitment to quality and service.

During 2018, there were no material incidents reported which the Group considered to be non-compliant with the Code. A comprehensive review of the Code of Business Conduct and its associated processes will be conducted during 2019.

The Code is supplemented by policies relating to our operational and managerial practices. 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. We continuously review and update our principles and policies with respect to our employees and suppliers, to ensure compliance and in recognition of our concern about modern slavery. Our Modern Slavery Statement, published in June 2018, is available on our website and will be updated during 2019.

Internal financial and IT audits performed

75

DEMONSTRATING LEADERSHIP

Our goal is to be the most sustainable paper-based packaging solutions company globally. To achieve this, we believe it is important to share our sustainability experience with our customers, suppliers and the wider industry.

We are involved with selected trade bodies to influence understanding and share knowledge about 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 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)



PROVIDING SAFE PRODUCTS

Ensuring our packaging solutions are safe is an integral part of our business. As our packages are used to deliver and store food products, our products must meet all food safety standards. These include OECD guidelines for Multinational Enterprises and providing statements on food safety and REACH to our customers. These are available on request through our website.

IMPROVING CUSTOMER SATISFACTION

As a highly customer-centric organisation, we put customer experience at the heart of our operating model. We strive to differentiate ourselves with an enhanced buying experience, and to create measurable value for our customers and key stakeholders.

Delivering a great customer experience calls for disciplined execution and consistent service delivery. We use data and analytics-based insights to review customer journeys and pinpoint the operational improvements that can have the biggest effect. We also use tangible methods and tools to measure customer satisfaction and understand what matters to our customers and how we can deliver it. Our Customer Relationship (CRM) tools enable us to follow up on customer feedback and capture insights that can maximise customer satisfaction. This drives customer value and loyalty.

SUSTAINABLE SOURCING

In 2018, we spent 5.2 billion euros on raw materials, energy, transportation, maintenance/repair, and investment goods. Sourcing materials, goods and services represents the single largest cost for Smurfit Kappa. As such, sustainable sourcing is an integral part of our sustainability vision and strategy.

We want to sustainably grow our business and value chain. That means our materials, goods and services must not only have the right quality and cost, but also be sourced securely and responsibly. By developing more sustainable supply chains in collaboration with our suppliers,

we can manage risks and costs, develop new revenue streams and add value to our brands.

We have a sustainable sourcing programme, which helps us deliver against our five strategic sustainability areas of Forest, Climate Change, Water, Waste and People. The programme itself is built on seven pillars. These are: quality, hygiene and safety, business continuity, manufacturing, continual improvement, service and technical support, environmental and sustainable development. Each one has a strong sustainability implication, namely:

- 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.

The sourcing of raw material, goods and services is governed by international, national and regional regulations. But our approach to sustainable sourcing goes beyond regulatory requirements. To deliver our commitments and those of our stakeholders, we have a set of sourcing policies, informed by the Smurfit Kappa Supplier's Code of Conduct: Sustainable Sourcing Policy, Sustainable Forestry and Fibre Sourcing Policy (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, GRI Standards and CDP; reporting social data to Sedex, and adhering to ISO 9001, ISO 14001 environmental and ISO 50001 energy management systems as well as OHSAS 18001 on safety. These standards add to our credibility, as well as that of our suppliers.

REDUCING SUPPLY CHAIN RISK

To meet the requirements of our vision and strategy, our suppliers must adhere to the Smurfit Kappa Suppliers' Code of Conduct. Those who do not sign up to it must be

committed to a compatible code. Suppliers are also required to follow our Sustainable Sourcing Policy, and all other relevant policies. We monitor our supplier's compliance through our sustainable sourcing programme.

Our sustainable sourcing programme was founded on risk mapping against our key criteria: overall spend, global presence, technological innovation, excellent service and reputation. Risk mapping considers the sourcing categories with the highest impact on our products, and therefore our stakeholders. The most relevant sourcing category is raw materials.

Sustainable sourcing of wood and recovered paper is vital for our fibre-based products. Wood, pulp, paper and recovered-paper sourcing, as well as our own forestry operations, is controlled by our Forestry and Fibre Sourcing Policy. A more detailed report on these activities can be found in the Forest section on pages 32-39.

We require our key materials, goods and services to be managed sustainably. Since launching our sustainable sourcing programme in 2010, we have been auditing all of our strategic suppliers to ensure they meet our standards. We also monitor whether suppliers are members of Sedex or are assessed on their ethical practices otherwise. We believe audits increase competence and commitment in our supplier base, while enhancing our own understanding of key requirements.

Audits result in a rating against each of the seven pillars of our sustainable sourcing programme. If the result is below satisfactory, an improvement programme is devised. Failure to commit to the improvement action list may, ultimately, lead to termination of the business relationship.

Our risk mapping, combined with supplier audit results, show that 81% of our important suppliers of key raw materials, goods and services audited in 2018, carry moderate to low risk. Our sourcing network includes suppliers ranging from small-scale local companies to large

Seven Pillar Supplier Audit Programme



multinationals. In total, an estimated 82% of our suppliers' deliveries can be classified as local. In 2018, supplier improvement opportunities typically included hygiene and environmental management systems as well as brand protection. Overall, there were no material findings on our audits that would impact safe and timely deliveries of our products to our customers.

UPDATING OUR AUDITING PROCESS

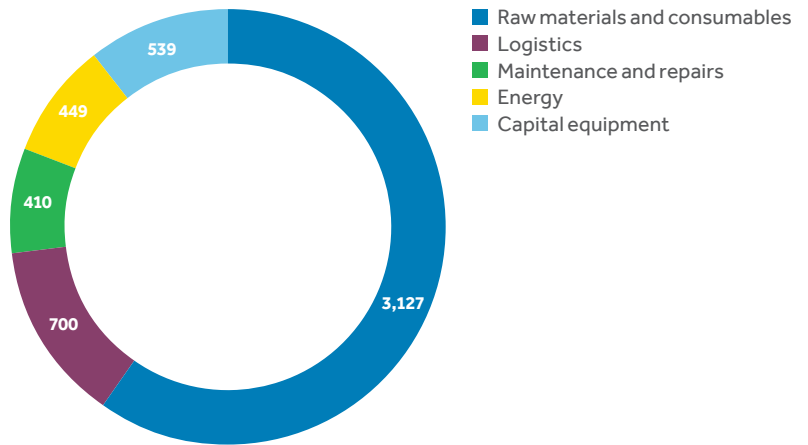
New developments in the auditing process this year included a special focus on large national and regional hauliers. We also implemented the requirements of the UK Modern Slavery Act in our sourcing programme, and increased supplier screening on human rights. Adding transport to the auditing process supports this, as illegal trafficking is a factor in modern slavery. In addition, we have added pallets and paper machine clothing audits to the programme to enhance its scope.

As part of our work with the UN SDGs, we have started to evaluate how we can include the SDGs in our sustainable sourcing programme. This evaluation has been targeted on our strategic suppliers.

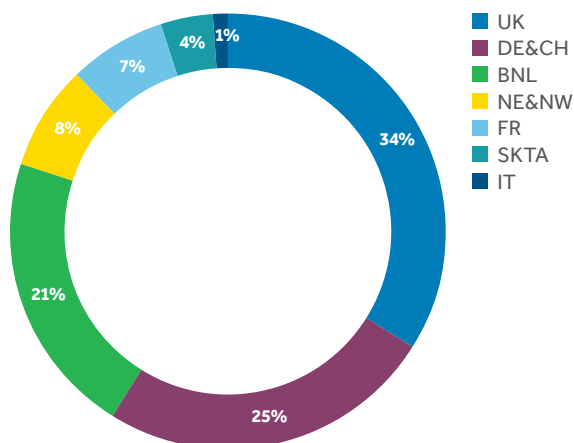
In 2018, a total of 73 supplier audits were performed, and 38 of these were first-time audits. Of these, 44% were conducted on strategic suppliers, reflecting our increasing emphasis on large national and regional hauliers. 85% of all suppliers audited during 2018 scored satisfactorily (up 2 percentage points compared to last year) and the remaining will pass the audit once they complete improvement plans.

Following the initial audit, we work with each supplier to identify continual improvement opportunities. 12 suppliers audited in 2018 operate in areas of high risk to us, 10 of which are hauliers, so a close-monitoring programme is being implemented to monitor their performance.

Total Sourcing Costs (€5.2 billion)



2018 Supplier Audits by Country (73 supplier audits)



#1 FOREST

Forests are fundamental for climate, CO₂ and water cycles, as well as biodiversity. When managed sustainably, forests provide renewable, recyclable and biodegradable raw material for industry and employment and livelihoods for communities.

This strategic priority covers forest management, related biodiversity and human rights issues, recycled fibre sourcing and the communication of how we use sustainable fibres through certified Chains of Custody. Our reporting encompasses our own forestry operations, fibre sourcing, manufacture and our products.

88%

Over 88% of our packaging solutions sold as CoC certified

91%

of our paper produced and purchased as CoC certified

43,000* ha

Safeguarding ecosystems through forest certification

22,000 ha

natural forest conserved

7.2 million

tonnes recovered paper collected

38

recovered paper depots in Europe and the Americas

* Hectares FSC and/or PEFC certified



Relevant UN SDG's:



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

Commitment #1

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

TIMEFRAME: Continuous

We reached this target in 2014. We now work to maintain this level.

PROGRESS MADE

We continued to produce and purchase 99.9% of our fibres under fibre origin management systems that are Chain of Custody Certified in 2018. 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: Continuous

We reached this target at the end of 2016. Our aim is to increase this already high level further.

PROGRESS MADE

At the end of 2018 we were at 90.5% and during the year we reached 88.4% on average.

Commitment #3

All production sites operate using FSC, PEFC and/or SFI Chain of Custody standards.

TIMEFRAME: Continuous

Every newly-acquired site has to comply with the CoC management system certification within two years from acquisition.

Our perspective

Both virgin and recycled fibres are needed for optimised packaging solutions delivering lowest holistic environmental footprint for the packaged products.

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/prosperity
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.

Risks

As growing consumption raises pressure on resources, society increasingly places value on sustainable consumption and production, integrity of origin, recycling and avoiding waste. This can disrupt the availability and acceptability of our raw materials.

Opportunities

We implement forest certification and Chain of Custody certification to guarantee origin traceability. Using both recycled and virgin fibres in production, our opportunity is to deliver fit-for-purpose packaging with the best overall environmental footprint for each package.

Strategic Priority #1: Forest continued

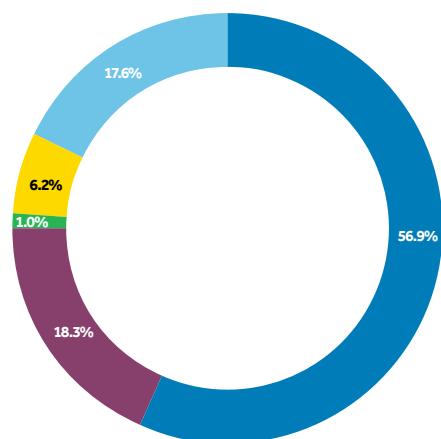
As we manufacture paper and paper-based packaging solutions, our stakeholders, and particularly our customers, expect Smurfit Kappa to use sustainable raw materials, and communicate our impact in a transparent and credible way.

Using wood fibres as our main raw material, strongly links Smurfit Kappa to the bioeconomy, and through that to the circular economy. Smurfit Kappa uses virgin and recycled fibres to produce paper. This gives our customers the advantage of optimised fit-for-purpose packaging in which the appropriate quality paper is used for best performance, avoiding over and under packaging as well as paying attention to product and food safety.

Virgin wood fibres will always be needed for paper production. Fibres can only be recycled about eight times before their quality becomes too poor for paper production, so sourcing virgin raw material from forests is unavoidable. Globally, we use about 25% fresh wood fibres and 75% recycled. Our focus on efficient use of renewable, recyclable and biodegradable resources makes us a contributor to the circular economy and to UN Sustainable Development Goal (SDG) 12: Responsible consumption and production.

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

Fibre Origin 2018



Key:

- Recycled pulp produced internally
- Wood pulp produced internally
- Market virgin pulp
- Virgin papers purchased
- Recycled paper purchased

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

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 and higher consumption per capita increases the need for goods and services. To sustainably respond to this growth, the role of performance-based, fit-for-purpose packaging will increase, especially in the developing and emerging economies. 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 awareness is needed about 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

Forests manage local climate and water cycles, and support biodiversity. Any threat to them also affects fresh fibre availability, especially if consumption increases faster than paper recycling rates.

SDG 15.2 aims at stopping deforestation and promoting sustainable forest management. We fully comply with sustainable fibre laws like the EU Timber Regulation and the US Lacey Act, and our customers and investors require responsible sourcing. The State of Sustainability Initiatives recommends forest certification, and related Chain of Custody certification, as the best sustainable raw material certification systems addressing biodiversity. Forest certification and CoC management systems cover ecosystem protection, responsible employment (SDG 8 and in particular 8.7 and 8.8), and fair compensation to forest owners.

The three international certification schemes – Forest Stewardship Council® (FSC), Programme for Endorsement of Forest Certification™ (PEFC) and Sustainable Forestry Initiative™ (SFI) – best assure sustainability.

Being a leader in sustainable fibre sourcing gives us an advantage over our competitors. The forests and plantations we are responsible for are effectively certified by FSC and PEFC. We have invested in certified Chain of Custody systems throughout our operations, to offer our customers certified packaging solutions from any production unit. However, FSC and PEFC have had their Chain of Custody systems' integrity challenged, and therefore revised their Chain of Custody and controlled wood standards, creating platforms that increase data transparency. As an active member of FSC and PEFC International, Smurfit Kappa actively supports and participates in this work.

SUSTAINABLE BALANCE OF FIBRE USE

Increased global consumption, combined with the goal of decreasing waste of packaged products, means more need for fit-for-purpose packaging. In addition, the need to reduce environmental littering demands increased interest in renewable, biodegradable packaging materials with increased recycled content.

In line with SDG 12.5 and the EU Circular Economy Package, paper-based packaging recycling continues to increase and increased paper recycling has a positive impact on the fibre supply. However, using recycled fibre reduces the quality of recovered and recycled paper, and virgin fibre-based packaging is the only suitable packaging for products such as 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 material from 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 for the purpose for the most overall optimal environmental footprint for each packaging.

CASE STUDY

WORKING TOGETHER WITH SMALLHOLDERS

“SK practically does not own forest plantations in Spain, so it’s our job to find the raw materials our plants need,” says Pedro Albizu, General Manager of SK Central Forestal.

SK Central Forestal guarantees the safe and competitive supply of wood fibres to produce sack and machine-glazed paper in the SK Nervion and SK Sangüesa mills. His remit also involves ensuring the fibres come from sustainably managed forests.

In 2015, a new paper machine was installed at the Sangüesa mill in response to a demand for strong paper that could survive food handling and similar uses. Our customers have always specified Forest Stewardship Council (FSC) certification of the paper, and our previous machines used recycled fibres which could be FSC Chain of Custody sourced. However, the new paper could only be made from virgin fibres, so using FSC certified recycled fibres was no longer possible.

New sources of virgin fibres were needed, but the potential Spanish suppliers were all smallholders, registered under the Programme for the Endorsement of Forest Certification (PEFC). This programme has been specifically developed for European smallholders who found the certification costs, requirements and inflexibility of the older FSC forest certification (developed for the huge plantations of the Tropics) too expensive and difficult for smallholders.

Added to this problem was the time factor – the new machine was due to begin operations in a year, with potential loss of 24 customers if there was a delay. The SK Central Forestal team worked closely with a consultant and relevant stakeholders: “We held several meetings with sceptical smallholders, trying to convince them of the advantages of FSC membership as a way to get access to the environmentally demanding markets.”

The solution was to work with the smallholders and the FSC on a new pilot project to allow groups of smallholders to share a certificate, meaning costs were shared as was most of the extra paperwork involved in ensuring that the forests are managed with biodiversity, ecosystems and employee safety among other issues in mind. The Spain and Portugal pilot project became a successful one for Central Forestal and FSC Spain, which intends to recommend it to other European smallholder supply markets.

Before 2015, there was no FSC certified wood in the area – at the end of 2018 there was over 76,000 m³. The increased supply of FSC-certified virgin fibres has led to Smurfit Kappa gaining nine new customers and enhanced the ‘green’ aspect of our brand.

Currently the scheme has over 30 smallholder members and the number is growing. As Pedro Albizu pointed out, “A 30th of certification costs and paperwork is a much lighter burden for everyone involved!”



Pedro Albizu,
General Manager Central Forestal

FSC certified forest in 2015

0m³



FSC certified forest in 2018

76,000m³



Strategic Priority #1: Forest continued

To help improve fibre quality and lifespan, we participated in the World Economic Forum Project Mainstream, publishing guidelines to improve paper recyclability, including use of easily-removed inks and glues. We are also part of the World Business Council for Sustainable Development Forest Solutions Group, making the most of circular loops within the forest industry.

We support the packaged products' supply chain demands, optimising recycled and virgin fibre use, and Smurfit Kappa's innovative tools help customers do likewise. Communicating this expands our customer base to include market leaders. It also strengthens the circular loop between paper-based packaging producers and final users, so keeping fibres in the loop becomes everyone's job. Our recycling operations have established partnerships with retailers striving to reduce waste and use win-win practices, such as the collection of used packaging from their locations.

WOOD-BASED SUBSIDIES AND THEIR EFFECTS ON WOOD MARKETS

The 2020 EU Renewable Energy Policy targets are supported by subsidy schemes which increase the price, and affect availability, of our raw materials. For 2020 - 2030 the target for renewable energy has been increased – participants should procure 27% of their energy from renewable sources by 2030. The EU has

also called for an improved biomass policy to create fair competition between the uses of biomass resources in, for example, the paper and pulp industries. This supports our 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 of non-controversial origin, or Chain of Custody certified recycled fibres 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 (Sustainable Forestry and Sourcing Policy, Code of Business Conduct and Social Citizenship, among others). Most of our commitments have been covered by the Chain of Custody certification standards, which concern all fibre and fibre-based products we use or manufacture, whatever their origin or form.

55% of wood used for virgin paper or pulp in the Smurfit Kappa mill system, comes from forests certified under the FSC, PEFC and/or SFI schemes. The remaining 45% is wood from non-controversial origin, and fulfils the FSC Controlled Wood criteria. The small drop in certified wood deliveries compared to 2017 is due to our Spanish wood supply, where engaging forest owners to forest certification has been a challenge. The non-certified wood has been risk-assessed through our FSC and/or PEFC Chain of Custody system, and verified by a third party. We continuously face the challenge that forest owners are hesitant to certify their forest management practices. This is especially due to high costs related to the administration of the certification systems. We continually work towards increased forest owner engagement and an example of this work has been presented in the case story on the previous page.

Annually, Smurfit Kappa's recycling operations handle some 5.3 million tonnes of recovered paper in Europe, and 1.9 million tonnes in the Americas. We have a network of 16 recycled paper depots in Europe, and 22 in the Americas, supplying recovered paper from municipalities, retailers, industries, and our own corrugating and converting operations.

CASE STUDY

GROWING COMMUNITY FORESTS

As part of its work to support communities where it operates and engages employees, SK Mexico offered its employees and their families an opportunity to participate in local afforestation programmes. In 2018, the SK Mexico volunteers joined the local communities in tree-planting.

The newly forested areas help communities tackle erosion and create agreeable recreational areas, benefiting the environment and local residents. The number of trees planted by SK volunteers reached over 1,000 during the year.

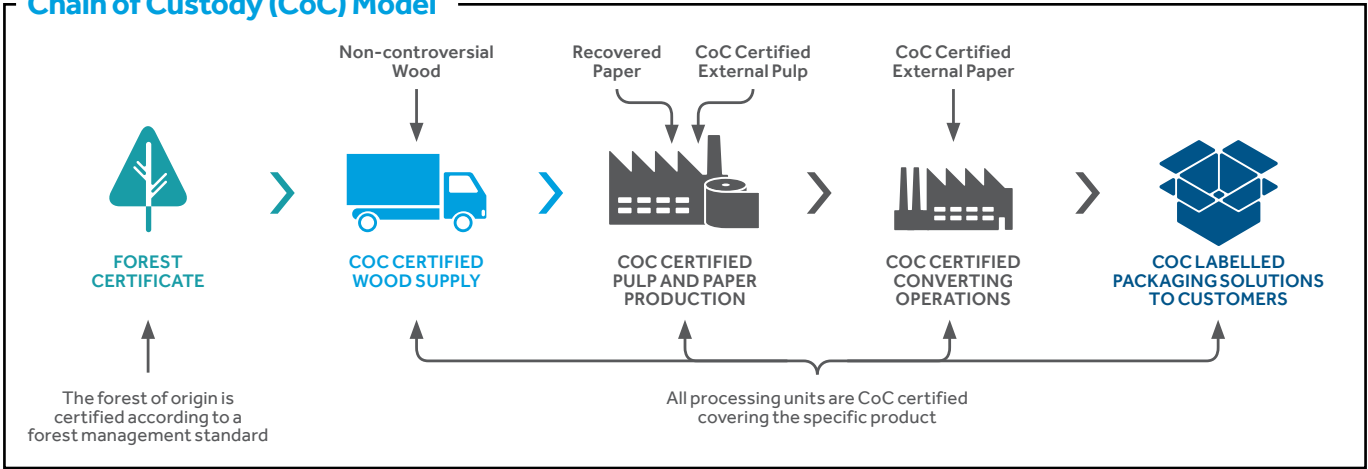
>1,000

trees planted by SK volunteers during the year.



Mónica Quintero Morales and Adriana Saavedra Morales (daughter and niece of Verónica Morales, accounting assistant of CCG Mexico)

Chain of Custody (CoC) Model



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 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.

In 2018, 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 the FSC and PEFC schemes we have supported 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 complete coverage of both certified paper, board production and conversion operations. We reached our target to sell over 90% of our packaging products as Chain of Custody certified at the end of 2016. During 2018, we faced some shortages in certified paper deliveries which resulted in a small drop to 88.4% for total year average, but in fourth quarter we again reached our FSC sales target with 90.5%. During the full year, the papers delivered were purchased through Chain of Custody management systems and met the non-controversial origin requirements.

CASE STUDY

JOINING FORCES TO PROTECT THE ANDEAN BEAR

As part of its nature conservation programme, SK Colombia supports multiple initiatives to preserve biodiversity. A third of the land area dedicated for forestry is protected and SK Colombia works in collaboration with universities to map flora and fauna on its sites.

'spectacled' bear, an IUCN-listed endangered species. In 2018, to further protect the bear, SK Colombia joined forces with local companies and communities to create a dedicated alliance. Maintaining and conserving the bear's habitat has required studies of the area's biodiversity, as well as major efforts in education.

One notable inhabitant of the SK Colombia forest conservation areas is the Andean or

Ana María Maya Girón, biologist of National Natural Park Munchique and Gwynet Sofía Muñoz Carvajal, student 6° ITAF El Tambo



Strategic Priority #1: Forest continued

To further improve our approach to sustainably sourced fibres, in 2017 we performed an assessment and gap analysis to understand the effectiveness of our Chain of Custody and related due diligence systems. This assessment, conducted by an independent third party, was finalised in 2018 and resulted in further optimisation of our due diligence systems. We source fibres from 35 countries among which seven are classified as potentially high-risk (Argentina, Belarus, Brazil, Chile, Colombia, Russia and Ukraine). In Colombia we only source from our own FSC certified plantations. For the fibres sourced from the other six countries, additional due diligence is performed.

FOREST AND PLANTATION MANAGEMENT COLOMBIA

Smurfit Kappa owns and manages 67,000 hectares (ha) of forests and plantations in Colombia. They are all managed by protection programmes based on the best sustainable development principles, promoting responsible use of natural resources along with economic development and social inclusiveness.

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

Our 67,000 ha of forests and plantations in Colombia include:

- 42,000 ha of commercial plantations, of which 5,000 ha are partnerships with private land owners;
- 22,000 ha of protected natural forest; and
- approximately 3,000 ha for infrastructure.

In our commercial plantations 59% of the land is occupied by pine trees and 35% by eucalyptus trees, while 4% is being replanted and 2% is dedicated to research.

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

BIODIVERSITY AND ECOSYSTEM CONSERVATION

Of the forest land owned by Smurfit Kappa in Colombia, 33% is dedicated to forest biodiversity and ecosystem conservation. This land helps maintain the area's rich biodiversity, preserving watersheds, habitats and ecosystems.

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

- conserve the natural forests under our stewardship, protecting and promoting species diversity, thereby sustaining ecosystems and contributing to the protection of water sources and habitats;

- identify appropriate species and practices which increase plantation yields while protecting the environment; and
- continuously and systematically develop research programmes to preserve and enhance soil productivity.

Plantation forestry efficiently produces sustainable fibres for paper production. We have dedicated carefully selected areas for plantations, 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 five 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 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, aiming to engage local people in our decision-making processes. This is especially important in Latin America, where indigenous people may have land rights, and livelihoods are often dependent on forests.

FRANCE AND SPAIN

In Europe we offer forest management services through our wood supply companies in France and Spain, where we also own some 600 ha of forest. 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.



Smurfit Kappa tree nursery in Colombia



#2

CLIMATE CHANGE

Climate change represents a global challenge. More intense and extreme weather poses a risk not only to society, but also to business. The risks vary from operating sites and supply chains being physically damaged, to changing consumption patterns.

We make a significant impact in the value chain through smart packaging solutions that can significantly cut customer emissions. We help them optimise their packaging to avoid product waste, minimise over-specified packaging and increase recycling.

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

29%

reduction in fossil CO₂ emissions

51.2%

biofuel in our paper mills' fuel mix

15%

energy efficiency improvement since 2005

10,000

daily uses of our InnoTools



Relevant UN SDG's:



Acting on climate change is one of the key 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. We also offer our customers optimised packaging solutions that help them to reduce CO₂ emissions in their value chain.

Commitment #1

A 40% relative reduction in Scope 1 and 2 fossil fuel-based CO₂ emissions (compared to 2005) in our mill system compared to 2005 levels.

TIMEFRAME: By 2030

PROGRESS MADE

In 2018, we reached 29% reduction and set ourselves a new longer-term target.

Commitment #2

Collaboration with customers to make carbon footprints 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 2018, these tools were used on average some 10,000 times a day.

Commitment #3

Assessment of energy usage reduction opportunities in converting operations in selected countries.

TIMEFRAME: By 2020.

PROGRESS MADE

Project was started in 2018.

Our perspective

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

- stimulates packaging 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 greenhouse gas 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 it means reducing energy use and increasing energy efficiency and the use of renewable sources where feasible.

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

Risks

Climate change poses risks within the value chain. They vary from extreme weather potentially affecting our sites and forests, to pressure on availability of raw materials.

Opportunities

The circular economy is an opportunity for our business, as we seek to use resources efficiently. We are investing in technology to reduce our energy demands and optimise resource efficiency when producing paper products and optimising the use of raw material residual streams, such as black liquor, in bioenergy production. We convert our data to serve our customers and find CO₂ reductions in their supply chain.

Strategic Priority #2: Climate Change continued

Climate change represents a global risk. More intense and extreme weather poses a challenge not only to society, but also to business.

The challenges vary from operating sites and supply chains being physically affected, to changing consumption patterns. Throughout its value chain, Smurfit Kappa faces risks and opportunities related to climate change. Being energy intensive and utilising a raw material that plays an important role in climate change mitigation, we consider climate change as one of our key material issues.

As a significant user of energy in paper manufacture, improving our energy efficiency means both lower costs and reduced climate impacts. While minimising the energy intensity of production processes is our main focus, the challenge is to move, where economically viable, from fossil fuels to renewable sources, including biomass. This makes us an efficient user of resources: wood, residual product streams and energy.

The whole-system, circular approach in producing paper from virgin and recycled fibres to optimising use of residual products (sawdust, bark, black liquor and fibre containing sludge, as well as biogas from our water treatment process) makes our industry one of the most efficient users of our raw material and its side streams. For energy production, 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. This guarantees the use of resources to their highest value and in line with the waste hierarchy.

Our use of energy and resulting greenhouse gas emissions are important impacts 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, and both are relevant to us. We contribute to SDG 7: Affordable and clean energy, via our energy efficiency and renewables programmes, and through the role our forests play in climate resilience and by setting carbon reduction targets in line with the Paris Agreement on climate change. Our commitment to reduce our CO₂ emissions is also contributing to the SDG 13: Climate Action through supporting national targets in emission reductions. While reducing our own emissions, our products are relevant in avoiding emissions in our customers' value chains and through our approach to sustainable fibre production we help both sequestering carbon from the atmosphere as well as avoiding emissions by avoiding our packaging becoming landfill.

RISKS, CHALLENGES AND OPPORTUNITIES ENERGY GENERATION AND GHG EMISSIONS

The paper-based packaging industry can offer relevant means to contribute to the national and international emission reduction targets. 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 the global drive to decrease fossil CO₂ emissions, we need a shift towards using renewable energy. This could be achieved by using biomass energy, but this may limit the availability of wood fibres for paper production. Increased competition and higher raw material costs, possibly because of government incentives encouraging the use of biomass, could create a competitive disadvantage compared to less energy-intensive packaging materials.

To succeed with its input towards a low-carbon society, our business needs a level playing field. 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

CASE STUDY

PEACE OF ENVIRONMENTAL MIND WITH FUELS FOR FORKLIFTS

As part of continual improvement, the SK Dublin converting plant has been looking into how to work with lower emissions from their forklifts. First, in 2015, they moved from diesel-fuelled forklifts to Liquefied Petroleum Gas (LPG). Next, they looked into a non-fossil CO₂ emission alternative, finding it in the form of BioLPG, a fuel produced from a mix of wastes, residues and sustainably-sourced vegetable oils.

It is delivered, stored and used in the same way as fossil LPG. In a six-month trial, the forklift drivers were proud to be able to save 72% in CO₂ emissions.



Storage tank BioLPG

the EU can avoid so-called 'carbon leakage' – the transfer of business operations to countries with less robust environmental targets. We believe that the EU initiative for an Energy Union will enable European companies to deliver innovative, efficient products and technologies to tackle climate change, provided it is established correctly. The EU approved its policy framework on climate change for 2020 - 2030. For the paper industry it is fundamental that the region remains competitive and avoids costs that hinder global competitiveness.

Looking ahead, the Forest Fibre Industry 2050 Roadmap to a low-carbon bioeconomy showed that a CO₂ reduction for our sector of 50-60%, 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 as 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 – Chain of Custody management systems are used throughout our operations.

The Paris Agreement considers CO₂ emissions that are generated from sustainable biobased fuels as carbon neutral. For Smurfit Kappa, this means the residual streams from our wood raw materials that originate from sustainably managed forests. While growing, the wood stock sequesters carbon from the atmosphere and when combusted for energy purposes that amount of carbon released to the atmosphere does not exceed the amount sequestered. Sustainable forest management is a tool to ensure that the balance remains. More about our approach to sustainable forest management can be read in the previous section, Forest.

Carbon and material efficiency is one of the key drivers in innovative packaging solutions for our customers. As the graph on the right shows, packaging protects more resources than it uses, and its carbon footprint is lower than its contents. This challenge is as 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 the following pages.

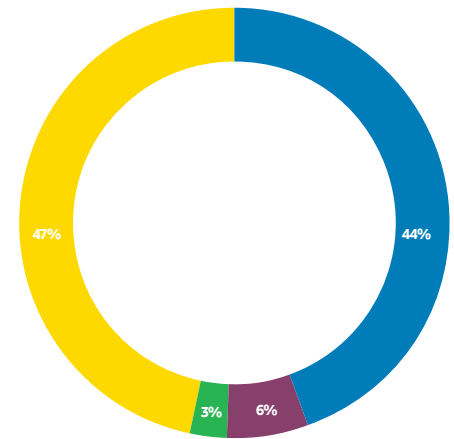
Progress in 2018

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:

- 1 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; and
 - Improving the efficiency of our current boiler houses, minimising heat losses
- 2 Investing in energy-reduction programmes:
 - Reducing our absolute use of energy through investments in research and new replacement technologies
- 3 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

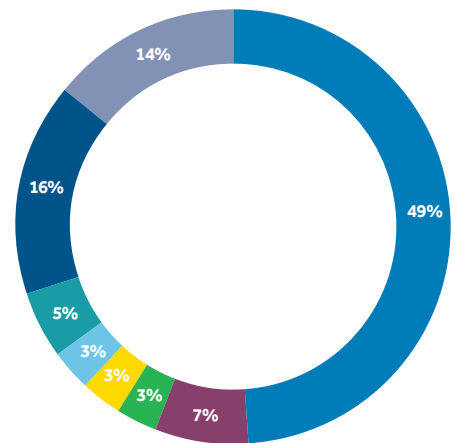
Between 2005 and 2018, we achieved a 29% reduction of relative CO₂ emissions for our paper and board mills. We published a new target for CO₂ emission reductions in 2018 and work now towards 40% reduction by 2030 of relative CO₂ emissions in comparison to the 2005 baseline.

Direct Fuel Consumption, All Operations



Key:
■ Natural gas
■ Coal
■ Other fossil fuels
■ Biofuels

Packaging has a Small Footprint in Food Product Value Chain

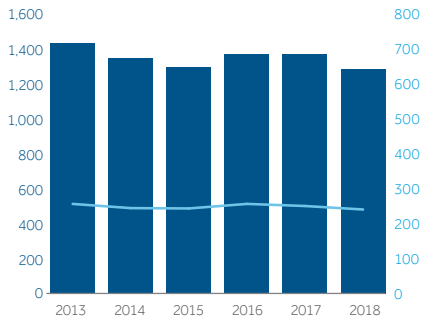


Key:
■ Food supply (farm/sea) as prepared food leaving the factory
■ Primary packaging
■ Secondary & transport packaging
■ Factory to shop transport
■ Retailing
■ Consumer shopping
■ Consumer cooling/freezing
■ Consumer cooking

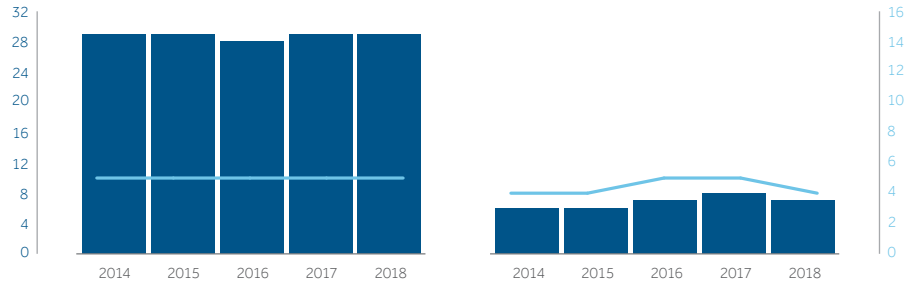
Source: Incpen, 2008

Strategic Priority #2: Climate Change continued

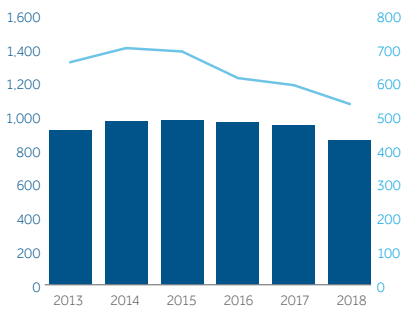
Direct Fossil (Scope 1) CO₂ Emission
European Mills



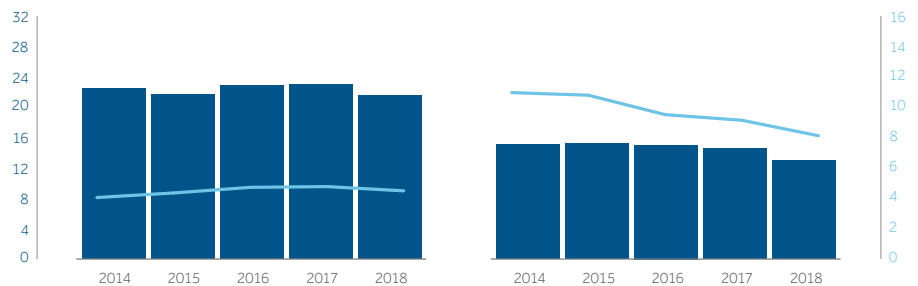
Biofuels



Direct Fossil (Scope 1) CO₂ Emission
The Americas Mills



Fossil Fuels



Key:

■ Absolute (ktonnes) — Specific (kg/tonne)

Key:

■ Fossil fuels absolute consumption (PJ) — Fossil fuels specific consumption (GJ/tonne)

ENERGY EFFICIENCY

While our climate change target is to reduce relative CO₂ emissions, it cannot be achieved without progress in energy efficiency. During the twelve years from baseline year 2005 to reporting year 2018, we have improved the energy efficiency of our paper mills by 15%. This has been achieved by combining investments in more efficient energy generation with investment in technologies that reduce energy use in our processes.

The key events during 2018, resulting in the 29% reduction of relative CO₂ emissions in comparison to 2005, were:

- Los Reyes, Mexico, first full year with its new paper machine with a capacity of 100,000 tonnes and a new boiler house, after decommissioning an existing machine, due to the higher energy efficiency of the machine and boiler house, CO₂ emissions have decreased by 11.2% per tonne of paper
- In Alfa d'Avignon, France, we improved the energy efficiency of the paper machine dryer section resulting in 2.0% decrease in CO₂ emissions in 2018 compared to 2017
- In our Barbosa mill, Colombia, the paper machine was upgraded from 73,000 to 112,000 tonnes in 2016. This machine's higher efficiency, due to the installation of a shoe press and natural gas CHP energy generation, continued to deliver a reduction

of 8.9% in CO₂ emissions because of energy savings and use of a cleaner fuel

- Our Bernal mill, in Argentina, changed its recycled stock preparation into the standard method developed by Smurfit Kappa, which reduces energy usage by using less equipment but at optimal levels. This resulted in an electricity usage reduction of 6.4% per tonne of paper and a CO₂ decrease of 2.9%
- Townsend Hook, UK, paper mill launched its new CHP which resulted in an improved energy efficiency. This shift resulted in 2.5% reduction 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 moved to biofuels where possible, and at our paper mills have reached a fuel mix of 51.2% biofuels, compared to 37.9% in 2005. With a move from fossil fuels in its wood yard, the internal transport

systems at the Piteå mill in Sweden operate increasingly on biofuels. The mill itself has effectively a fully biofuel based production. The addition of the Parengo mill in the Netherlands mid-2018 further helps us to work towards moving from fossil to bio-based fuels.

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 2018, Paper to Box was used nearly 9,000 times per day and Pack Expert almost 1,300 times per day. The application of Paper to Box continued to grow from 2017, 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 the 29% 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.

CASE STUDY

UPGRADING A MILL, DOWNGRADING EMISSIONS

SK paper mill in Barbosa in Colombia needed to respond to a growing need for packaging paper. In 2017 they were producing 78,000 tonnes of paper annually, but the demand was for over 115,000 tonnes.

"We wanted to do this with specific attention for sustainability, lowering our emissions, and improving Health and Safety," says Mauricio Andres Suárez, Superintendent of Production at the mill.

The mill team examined the opportunities carefully and found a clear improvement possibility in the press section of the paper machine, where water is compressed from the paper sheet. "We benefitted from being part of an international Group and were able to take ideas from the Townsend Hook paper mill (UK) that was completely rebuilt in 2014," he explains. "With the installation of a shoe press, we saw significant benefits."

Before the paper machine upgrade, it had a paper dryness of 45.5% after the press section. A shoe press replaces one of the traditional pressing rollers with a carefully-designed stationary 'shoe', giving more time in the nip area and thus better pressing. With the shoe press installation the dryness improved by 3.5%, and is now 49%. "A 3.5% improvement may not sound like very much, but there are knock-on benefits," says Suárez. "It means that less water needs to be evaporated in the dryer section and therefore the need for steam to dry the paper reduced by 15.6%. Altogether, these benefits have reduced the carbon footprint by 18.3%, which is a great result when upgrading a machine."

The machine is now producing 108,000 tonnes of paper on an annual basis, and this figure is increasing.

With the improvement of the press section, we also paid attention to health and safety. The press section has now more interlocks, meaning it is safer for operators to maintain. "For us, this gives clear evidence that when we improve production, we improve other factors as well," Suárez concludes.

The Barbosa mill team



CASE STUDY

HARMONY THROUGH EFFICIENCY

Corrugated plant SK Anzio in Italy had a challenge with the start-up efficiency of its boiler and steam production.

The plant didn't run its corrugator on night shifts and weekends, so steam production was not needed at those times. However, restarting the boiler was not efficient – restarts counted for 20-30% of the boiler's complete fuel consumption.

"Meanwhile, we had to wait for steam pressure and temperature to get to optimal levels, which not only took time in the mornings and Mondays after the weekend, but also makes it a quality issue," explains Alessandra Alunni, Production Manager of the site.

With the support from Philippe Drappier, Technical and Operational Excellence team, SK Anzio identified three suppliers who helped create a solution. They combined the boiler, steam circuit and a corrugator

control system so they could communicate with each other to deliver stability.

"We installed a new high-efficiency boiler capable of energy efficiency up to 97.5%," says Alunni. It was combined with a heat recovery system, a new steam circuit which included condensate recovery, and a Corrugator Quality System. "All these work in harmony with the corrugator and help us minimise energy loss while the corrugator is not running or restarting."

"I'm proud to say that we succeeded," says Alunni. The site has been able to save 314,000 kWh during the year, leading to CO₂ emission savings, and, most importantly, improved operator control. "The same approach will be installed in two other Italian corrugated sites

in the coming years, so we can be proud leaders for this change at SK Anzio," concludes Alunni.

"The site has been able to save 314,000 kWh during the year, leading to CO₂ emission savings, and, most importantly, improved operator control."

Alessandra Alunni,
Production Manager
SK Anzio



Stefano Forgetta, from SK Anzio working at the boiler

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.

In 2017 we started a project to include transport emissions in our transport-related supply chain decisions. The project focuses on three areas of improvements in transport choices: maximising efficiency through payload optimisation and reduction of empty mileage; developing modal mix with intermodal traffic, rail and water transport solutions; and less carbon-intensive fuel technologies. To be able to implement the new approach in our transport system, focus on data management is central. In 2018, we started a logistics data management project in Europe to pilot a system in which emission data is included in the logistics decision-making. This improves our understanding of our transport emissions and their reduction possibilities.

Our reporting covers the scope of the pilot project, our European transport emissions which represent 75% of our business. The transport streams, and scope of our reporting, are described in the diagram below. In future, we aim to include transport emissions from our American operations.

In the reported CO₂ emissions we include the transport of wood, recovered papers 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 2018, these emissions were the equivalent of 339.000 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 95.000 tonnes.

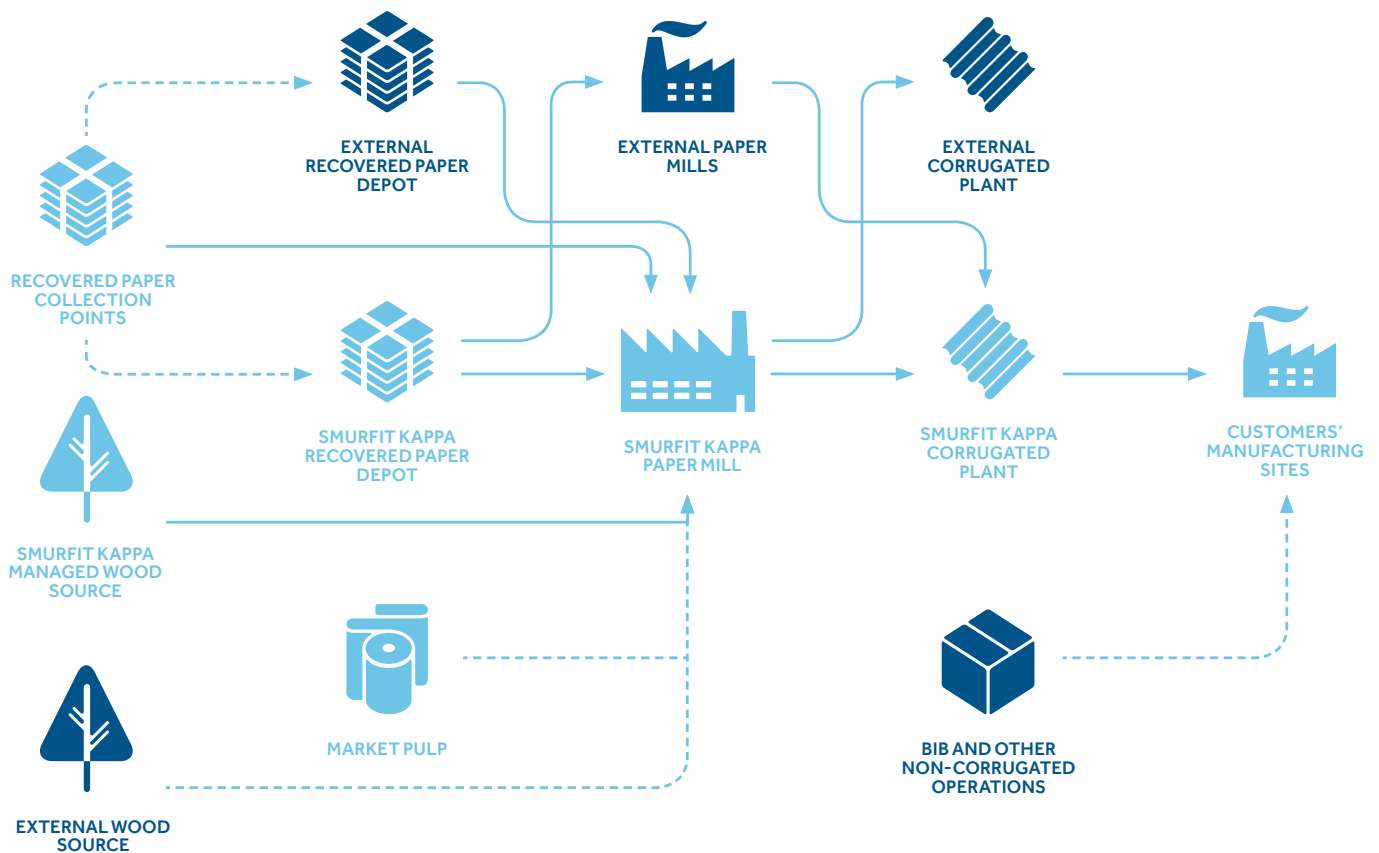
The total of these transport-related emissions in 2018 represented 434.000 tonnes of CO₂ equivalent.

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.

While corrugated transport is mainly organised by truck due to shorter distances, for all remaining transport flows we operate a modal mix with 5% rail, 8% water and 87% road transportation, based on shipped volume.

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 database where emission calculation is applied based on default CO₂ emission factors based on the GLEC reference model (Global Logistics Emissions Council by Smart Freight Centre).

Transport Streams



The transport streams shown with bold arrows represent transports included in the calculations.

#3 WATER

Water lies at the very core of sustainable development, and ensuring the global availability and sustainable management of water and sanitation for all could transform the UN 2030 Agenda.

We focus our efforts 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 well to improve our processes and lower environmental load.

Our target is set against Chemical Oxygen Demand (COD) in water which is an indicator of the organic content of water, helping to understand the organic content in water. For the vast majority of our operations, availability of 'fresh' water is not a concern for the foreseeable future, and of the water we take in, the major part is recirculated in the process multiple times and eventually is returned to nature. Nevertheless we believe that a responsible approach to water is crucial.

33%
reduction in COD discharge

1.42 m³
water consumption per tonne of paper

11 million m³
net water consumption

€67 million
investments in best practice water
treatment since 2005



Relevant UN SDG's:



Sustainable water management is of utmost importance for Smurfit Kappa because to succeed, our business needs ample availability. As we rely on natural raw materials, water is vital for the ecosystems and environments where we operate. We do everything we can to ensure the responsible stewardship of this precious resource.

Commitment #1

Reduce the organic content of water returned to the environment from our mill plants (COD) by 60% compared to 2005 levels.

TIMEFRAME: By 2025.

PROGRESS MADE

In 2018, we reached 33% and set ourselves a new long-term target.

COMMITMENT #2

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

TIMEFRAME: By 2020.

PROGRESS MADE

In 2018, five sites were audited.

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 availability at low cost. As we rely on natural raw materials, water is vital for the ecosystems and environments where we operate.

Over 90% of the water we use is returned to nature in good condition, and the rest is emitted to the air during the process or is bound to the product. We focus our efforts 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 well 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 appropriate actions to reduce the impact our operations have on the water balance in their region.

Risks

The unique characteristic of water-related challenges is that they are very local. Water scarcity creates the key challenge to us. Our global assessment, however, shows that only 13% of our paper production takes place in areas of water scarcity, representing 5% of our water intake.

Opportunities

The discharge of our water-related before or after treatment can be a valuable input for some of our neighbours' processes. To help ensure that our water use is correctly understood, we became a signatory to the CEO Water Mandate, and strive to understand local water-related risks and needs so we can address them as and if they arise.

Water is an important element in paper manufacturing. We use it as a medium for fibres to form a paper sheet. The water is then extracted from that sheet.

We also use water to create steam that helps to dry the paper sheet and for cooling purposes. In all cases water circulates multiple times through the processes, is eventually sent to the water treatment plant and is then partly returned to the process or cleaned to a condition in which it can safely be returned back to nature. Over 90% of our process and cooling water returns to nature and the rest is bound to the product or evaporated. It is for this reason that our main target in water is to decrease our COD content instead of focusing on water intake.

Our 35 paper and board operations used 113 million m³ of water in 2018, of which 103 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, 74 million m³ was used for processing purposes and 30 million m³ for cooling. Since 2014 we have carried out water risk assessments across our paper mills. Quality of water is important to our business. Our products need to meet hygiene standards and our paper-making technologies require certain quality from water. This means we have a common interest in good water stewardship with our neighbours and stakeholders.

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 Goals, SDG 6: Clean water and sanitation and SDG 14: Life under 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.

CASE STUDY

THINKING OUTSIDE THE BOX PLANT

In 2014, SK Provence Méditerranée faced a difficult challenge. The plant has an excellent reputation for producing cartons, containers and bespoke box designs, but new regulations in the Eaux de Brignoles area meant that effluent from the site's flexoprint machine needed to be significantly reduced. "On top of this, we had to solve the challenge with minimum disruption to our plant's operations and keep costs down," explains Jérôme Journoud, General Manager of the site.

For this reason, his team had to really think outside the box plant. "We found a system, widely used by agriculture and wine

producers to clean their processing water, and we talked with our neighbours to see if it could work for us," Jérôme Journoud says. The new approach is very simple: it helps to separate pollutants from water using aeration. The inks fall to the bottom of the separation tank and when the tank is full, they can be safely sent for waste treatment. Meanwhile, the pollutants in the water discharge are reduced. "The system actually works so well, that since starting the new system in 2014, we haven't sent any ink waste for waste treatment," explains Journoud.

With the new water treatment system the site succeeded in many areas: the system

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. In 2018, we enhanced our commitment to water stewardship by becoming a signatory of the CEO Water Mandate. We have implemented water treatment plants in 25 of our 35 paper mills.

Water treatment is part of the bioeconomy in the circular economy context. We use bacteria to clean the water and the biogas produced in the process is then fed into our Combined Heat and Power plants as a fuel. The sludges from the water cleaning process can be repurposed either as starters for other water treatment processes, as nutrition in agriculture or in other ways. 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 further supports natural water ecosystems (read more about our commitment to sustainable forest management in the Forest section).

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.

SDG 6.3 aims to improve water quality by reducing pollution, eliminate 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 35 paper mills, two operate in a closed loop system and six release their water to municipal water-treatment plants. All others process water onsite. We have also set ourselves a clear target of a 60% reduction in COD by 2025, including those mills that directly discharge to surface water.

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 €67 million since 2005 in the development of our water-treatment plants.

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 continuously improve water efficiency and the 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.



Jérôme Journoud General Manager of the SK PACA, presenting the new system to local Chamber of Commerce

was easy to install and caused no disruption to its operations, it can be multiplied to other sites and is cost-efficient. Finally, it delivers excellent results: the COD has dropped from 10,300 mg/l from before the installation to <30 mg/l. The new approach has also interested the local Chamber of Commerce, leading to site visits. "What is perhaps best, is that those neighbours with whom we spoke, are also our customers and our commitment to sustainability has been communicated to them in this practical way," concludes Jérôme Journoud.

CASE STUDY

LONG-TERM VIEW FOR LANDSCAPING AT SK LONGVIEW

Smurfit Kappa's Longview converting plant is located in Texas, US. To make the plant an attractive environment for employees and the wider community, its surroundings have been landscaped with greenery and trees. However, each year Texas suffers from drought, and irrigation with grid water is very costly.

The site has been built to use both rain and process water for irrigation. Rainwater that falls around the site is collected in a pond, while water from plant operations is collected, filtered naturally and flowed into the pond. From here the water is recirculated to the landscaped areas, keeping plants and greenery well-hydrated through the hot summer months.



Long-term view for landscaping at SK Longview

CASE STUDY

CIRCULATING KNOWLEDGE

Pure water is a sensitive issue along the Guadalquivir River, where SK Mengibar is situated. Downriver is Seville and the Doñana National Park, which was badly affected by an ecological disaster in 1998.

The SK Mengibar site had a spotless reputation for ecological responsibility, and had recently celebrated 50 years of service to the local community.

Ramón Callejo, General Manager of SK Mengibar paper mill, knew something was wrong when his plant's paper had a specific smell. "It had the aroma of butter, or sometimes like the sea," he says. "It's worrying when paper does that – it means there's something wrong with the water."

The SK Mengibar team – coordinated by Ronald Vorage of SK Paper Production Technology and helped by other mills – quickly discovered a link between the Chemical Oxygen Demand (COD) in the mill's water circuits and the smell, which came from water acidity.

They decided to use a purer source of water already available within the plant – the water outlet from flash aeration, which reduces odour and diminishes COD. A powerful water recirculation pump was installed in June 2017 to recirculate the flash-aerated water within the mill.

"It was an immediate success," says Callejo. Cleaner water in the circuits meant that the water-processing plant that discharges to the Guadalquivir River could function more effectively. It produced a further COD reduction of 25% (helping towards the Group target of 60% COD reduction by 2025); suspended solids reduced by 54%; and biochemical oxygen demand by 35%.

"It was great teamwork," Callejo says. "We were supported in all our decisions, including investment, by the Group, and had useful input from the corrugated sector." The Group has since shared the lessons learned across other facilities.



Ramon Callejo, General Manager of SK Mengibar

Strategic Priority #3: Water continued

PROGRESS IN 2018

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.

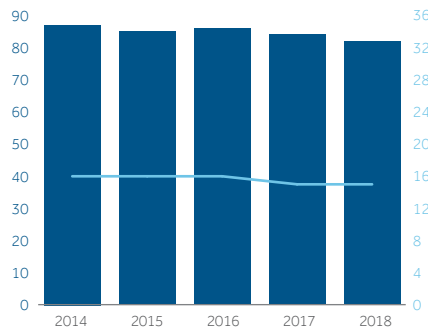
In light of the above, we continually implement best practice in our mills' water-treatment. In 2018, over 90% of paper and board was produced at mills where best practice water-treatment systems are in place. This involves treating process water to decrease the organic charge of effluent through anaerobic and/or aerobic treatments, before returning it to public water bodies. The by-products from water treatment are being repurposed for example in energy production where we feed our biogases as fuels.

In 2018, 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 2018 and early 2019, we carried out in-depth assessments at our paper mills in Coronel Suarez (Argentina), Los Reyes (Mexico), Piteå (Sweden), Wrexen (Germany) and Zulpich (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 2018, the mills have included the water risk assessments performed in their ISO 14001:2015 certification risk assessments.

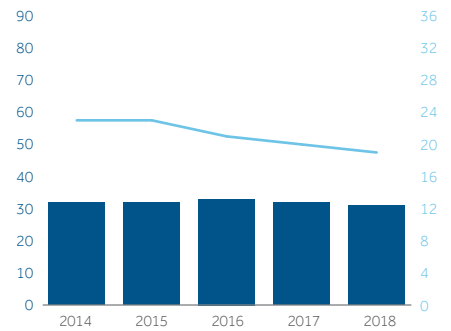
As part of the water risk assessments, we look into the physical risks posed by climate change as flooding or drought.

Water Intake – European Mills



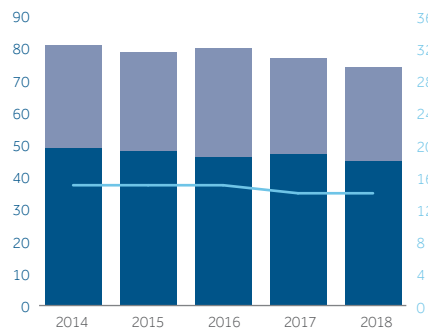
Key:
■ Absolute (Mm³)
— Specific (m³/tonne)

Water Intake – The Americas Mills



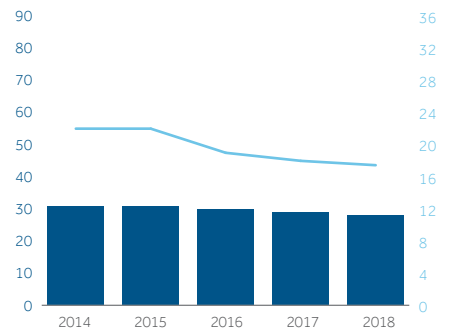
Key:
■ Absolute (Mm³)
— Specific (m³/tonne)

Water Released – European Mills



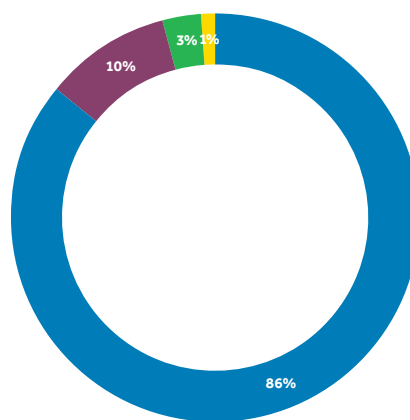
Key:
■ Absolute process (Mm³)
■ Absolute cooling (Mm³)
— Specific (kg/tonne)

Water Released – The Americas Mills



Key:
■ Absolute process (Mm³)
■ Absolute cooling (Mm³)
— Specific (kg/tonne)

Water Sources – All Operations



Key
■ Surface ■ Grid
■ Ground ■ Other

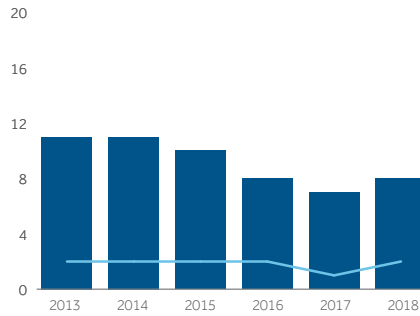
PERFORMANCE IN 2018

Between 2005 and 2018, the COD content of processed water returned to the environment has remained stable at 33% relative to production, in comparison 2017. These figures include for both 2017 and 2018 the three Brazilian paper mills acquired in December 2015. Our Piteå paper mill in Sweden experienced some dysfunctions in its water treatment plant, temporarily increasing its COD discharge by around 60%.

In 2018, water intake of all our operations was 115 Mm³, in comparison to 119 Mm³ in 2017. Part of the decrease reported is due to the deconsolidation of our Venezuelan mills. For 2018, the average water intake by our paper and board mills decreased to 16.3 m³ per tonne of paper produced from 16.5 m³ in 2017. This represents a 1.2% improvement, year-on-year.

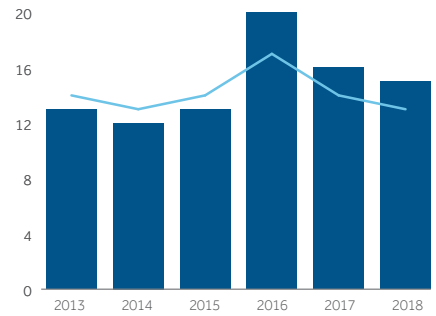
Overall, our paper mills in 2017 operate with a process that recirculates water multiple times. At the headbox of a paper machine the pulp consistency is around 1% of the water mix. In the beginning of the process, 75-125 m³ water is used per tonne of paper. We discharge 3-7 m³ water – about the same amount as the intake per tonne of paper. We recycle 10-40 times the amount of water needed in the paper making process of which we first reuse it at the paper machine and then return part of the water back to our process after treating it in our water treatment plants. Our Zulpich (Germany) and Bento (Brazil) mills operate in a closed water-loop systems.

Process Water Discharges* COD European Mills



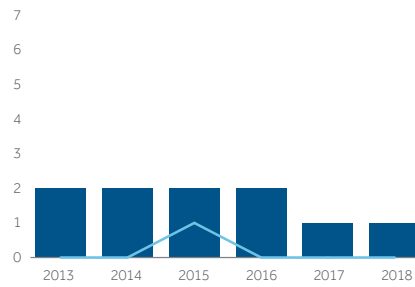
Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

Process Water discharges* COD The Americas Mills



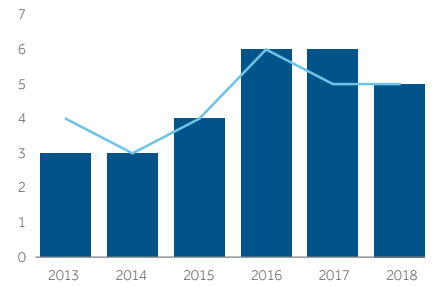
Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

Process Water Discharges* BOD European Mills



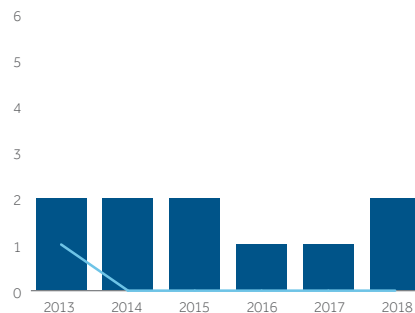
Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

Process Water Discharges* BOD The Americas Mills



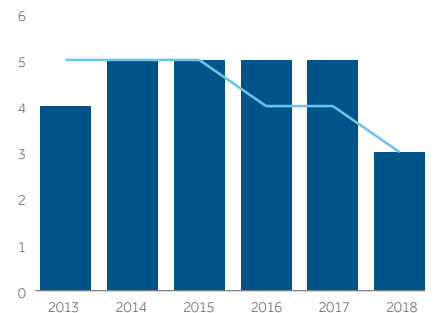
Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

Process Water Discharges* TSS European Mills



Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

Process Water Discharges* TSS The Americas Mills



Key:
 ■ Absolute (ktonnes)
 ■ Specific (kg/tonne)

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

CASE STUDY

FROM INDUSTRIAL TO NATURAL

Arcachon Bay in South West France attracts 2 million tourists every year to its picturesque villages, sandy beaches, forests and bird sanctuary. Local people live off tourism and oyster farming, and are proud of their region's beauty.

It seems an unlikely location for heavy industry but there has been a paper mill here for over 90 years. For the past 25 years, the Facture paper mill has been part of Smurfit Kappa and produces 1,500 tonnes of paper daily.

Unfortunately, in 2012 an explosion at the mill had a severe impact on the surrounding environment. Nicolas Le Feuvre, the Mill Manager, says: "2012 was a wake-up call: a terrible event but much good came from it."

He points to an overhaul of the mill's disposal procedures. With modern production, the mill no longer needs its huge discharge pond. After a smaller impermeable reservoir was set up, the 90,000 m² Saugnac basin was drained and the liquid treated; but that left a swamp of hydrocarbon effluent.

The obvious course of action would be to excavate, trucking contaminated soil to landfill, at a cost of €7 million. The mill suggested a different approach, and so became the first industrial site to use plants (mostly willows and poplars) and microorganisms to break down organic pollutants, in a process called phytoremediation. Carbon-locking trees were more attractive than polluting trucks – an important consideration in such a beautiful area; and the process was more cost-effective, at €1.9 million.

Le Feuvre says: "The Group was willing to make this major investment, but local stakeholder scepticism had to be overcome."

The project was completed in 2018, with 90% of the basin reclaimed and hydrocarbons reduced to one-seventh of their original value. Better still, earthworms, moles and local turtles have returned to the area. "It now looks like a natural prairie," says Le Feuvre. "We're giving back to the earth what we got."

"It now looks like a natural prairie, we're giving back to the earth what we got."

Nicolas Le Feuvre
General Manager
Facture Mill



Waste Water treatment
Plan in Roermond Paper Mill



#4

WASTE

Increasing scarcity of resources demands responsible production and consumption. Avoidance of waste is a key issue for our stakeholders and customers.

Our products are specifically designed to prevent loss and damage to the goods they protect. Our process itself is circular by nature. The fibres our products are made from are renewable, recyclable and biodegradable. 75% of our raw material is derived from recycled fibre and the remainder is sourced from Chain of Custody certified, sustainable sources. Our paper and board production process itself generates almost no waste.

Paper-based packaging has the highest recycling rate of all packaging materials. According to Eurostat, paper-based packaging reached a recycling rate of 85% in 2016.

7%

Over 7% reduction in waste sent to landfill

92%

paper based packaging collection rate

85%

paper-based packaging recycling rate

7.2 million

tonnes recovered paper handled at our depots



Relevant UN SDG's:



Our products themselves are designed to prevent loss and damage to the consumer goods they protect. Packaging is produced efficiently and is 'right-weighted' to optimise resource use and minimise waste. We operate a circular business model and eliminating waste is one aspect of taking the remaining linear elements out.

Made from 100% renewable and recyclable materials, our packaging can be recycled six to eight times and, once the fibres are depleted, it is typically used for energy generation or in agriculture.

Commitment #1

Decrease the waste sent to landfill by 30% per tonne of product produced by our mill system compared to 2013 levels.

TIMEFRAME: By 2025

PROGRESS MADE

At the end of 2018, we had reached the level of 7.3%.

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 six to eight times, and, once the 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 the waste sent to landfill to materials that can no longer be recycled or recovered.

Risks

Avoiding packaging waste by simply focusing on packaging weight might be seen as a quick way to decrease landfill. This, however, can lead to more waste resulting from greater damage to goods or poor material choices.

Opportunities

We see an opportunity to create fit-for-purpose, sustainable packaging with mono-material solutions designed for optimal performance and recyclability. We are also working with the recycling and paper producing industries to keep our raw materials in the recycling loop.

Material efficiency is at the heart of the concept of the circular economy. Society is looking for means to end the linear economy, in which the life cycle of a product ends in landfill, and find alternative ways to reuse, recycle and recover.

CASE STUDY

LESS WASTE MORE ENERGY

The SK Alfa d'Avignon paper mill is in the South of France, producing around 75,000 tonnes of testliner annually. The mill receives recovered paper from local communities within a 110-kilometre radius to use as raw material.

However, plastic is also part of the recovered paper stream. The plastic is taken out in the repulping process together with small quantities of paper fibre that the pulping process has not been able to remove from plastic. Until 2016, all rejects were sent to landfill. Due to the new regulations related to landfilling, the mill needed a new solution that was more environmentally-friendly.

After studying alternatives and testing results with its partner, SK Alfa d'Avignon found a solution that not only reduced the waste sent to landfill for the site, but also for the community. When the rejects are mixed with household waste, they create a consistency that improves the municipality incinerator's waste incineration capacity.

Therefore, in addition to no longer sending rejects to landfill, the site has also reduced their transport distance and improved the municipality incinerator's energy efficiency. All this has been done with a solution which is cost efficient and reliable.



Our business model is integrated in the bioeconomy and circular economy. Our raw material is renewable and recyclable and our products are, to a large extent biodegradable. In a world where litter has become one of the sustainability megatrends, our product offers a sustainable alternative and can be part of consumption change.

As a packaging producer, we also support our customers and society to avoid litter and wasted material. Our stakeholders, especially customers have a concern that too much food and packaging, apart from damaged products, end up in landfill. Our packaging solutions help prevent this waste by protecting food and products from damage or becoming spoiled. After use, packaging can be returned to us as a valuable raw material. Paper packaging has the highest recycling rate of all packaging materials globally, 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.

On average it takes 1.070 kilogrammes 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'.

It may seem paradoxical that while the products we produce are recyclable, we generate over 100 kilogrammes of non-hazardous waste per tonne of paper and board, of which approximately 58% 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.

To minimise the materials we send to landfill, we reuse our own waste as far as economically and technically possible. Currently, approximately 39% of this waste is recovered, and our objective is to increase this figure and the remaining 3% of all non-hazardous waste is disposed in other ways. 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 2025, compared to 2013.

RISKS, CHALLENGES AND OPPORTUNITIES

The 2018 saw avoiding litter to become a mega-trend worldwide. Paper and paper-based packaging are highly recyclable materials and currently the most recycled packaging materials worldwide. While the overall paper industry in Europe generally achieves 71.5% recycling rates (which is lower than the 85% recycling rate for paper-based packaging shown in the graph on page 57), in the US and in Latin America 66.8% and 45% recycling rates, respectively, have clear upward potential. This, along with natural biodegradability of our raw material, positions us well towards litter-free solutions together with our stakeholders and smart regulatory guidance.

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. SDG 12 on ensuring sustainable consumption and production patterns sets the framework on 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 SDG 11.6 on waste management. The EU drives decreased waste generation and change in consumption patterns through its Circular Economy Package.

Focusing on material efficiency and the circular economy creates opportunities for renewable raw material sectors and packaging. 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 mono-material solutions in which packaging is made only from corrugated board and paper, improving recyclability, making packaging recycling easy for the consumer and creating efficiencies in packaging lines. Our recovered paper operations collaborate with retailers, consumer goods companies as well as cities to collect valuable recovered paper to be returned to our paper mills and further converted to recycled papers again. 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 focus on reducing weight with the ambition of quickly reducing the volumes of materials ending at landfill. This ambition can, however, misguide society to move away from fit-for-purpose packaging and

CASE STUDY

DETRASHING THE TRASH

SK Bernal paper mill is located 20 kilometres from Buenos Aires, the capital of Argentina. It produces 90,000 tonnes of recycled paper annually for our Argentinian corrugated plants, one of which is just nearby.

The mill has been putting a lot of effort to become a leader in sustainable paper manufacture in the country starting from a state-of-the-art water treatment plant to working with its neighbours.

In 2017, through a public-private funding mechanism, an opportunity arose to reduce the amount of waste sent to landfill. "We receive a lot of different unsuitable materials among our recovered papers and these become rejects in the repulping process at the paper mill," explains Marina Povoło, environmental chief of Argentina and Chile. "The repulping process has a step called detrashing in which rejects are sorted and we noticed that through an update in the detrashing system, we could gain significant benefits."

This was also in line with the Argentinian Government's ambition of improving the sustainability of the paper industry in the country. As a result, part of the project costs related to the installation of the new detrashing system was subsidised by the government. "This meant that we needed a partner which we found in the University of San Martín," says Povoło.

She continues: "In collaboration with the university we have been able to analyse our reject contents and create a stream of plastic rejects that are now incinerated at the local cement plant for energy."

The new equipment was installed at the end of 2017 and since then the mill has been tracking good results. The amount of waste sent to landfill has decreased by 50% and with part of the waste now a source of energy, the mill is saving 430 MWh of electricity. At the same time, the material efficiency from recovered papers has increased by 9%. And not having to send waste to landfill has taken more than 120 trucks from the roads in a year, avoiding the emissions from transport as well. "Overall, we are very happy with the success of the project," says Povoło.

"We receive a lot of different unsuitable materials among our recovered papers and these become rejects in the repulping process at the paper mill."

Marina Povoło
Environmental Manager
SK Bernal paper mill

50%
decrease in waste sent to landfill

430MWh
of energy saved per year



Strategic Priority #4: Waste continued

ending 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 that from happening. We are committed to working with the recycling and paper producing industries to achieve this, and also welcome initiatives from other stakeholders in this area. Furthermore we support legislation that promotes using the economic value of materials for as long as possible.

We have ample opportunities to reduce the amount of material we send to landfill ourselves either through partnerships with third parties or by developing our own solutions. Packaged product's supply chain demands optimising recycled and virgin fibres use, and Smurfit Kappa's innovative tools help customers do likewise. Communicating this expands our customer base to include market leaders. It also strengthens the circular loop between paper-based packaging producers and final users, so keeping fibres in the loop becomes everyone's job. Our recycling operations have established partnerships with retailers striving to reduce waste and use win-win practices, such as the collection of used packaging from their locations.

PROGRESS IN 2018

We pragmatically approach the issue of waste defining the materiality of challenges in reducing various waste streams. Our starting point is the waste sent to landfill by our paper mills.

Over 90% of our waste is generated in our paper mills. Most of it is reject materials generated by

CASE STUDY

FINDING NEW LIFE FOR PALLETS

SK Ecuador had a lot of excess pallets needing disposal from the site. However, the pallets are wooden – too valuable to be sent to landfill. Together with a neighbour who was working with the ecological park San Jeronimos, the plant had an opportunity to donate the obsolete pallets for a good cause. The raw material was repurposed to furnish the children's play area with, for example, play houses, covers for waste segregation points and fencing.



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 2018 in comparison to 2017. Since 2013 this figure has decreased by 6%. The total amount sent to landfill from our paper and board mills increased materially in 2018, compared to 2017. As a result from 2013 until the end of 2018, the total decrease is only 7.3% per tonne of paper produced. This development is due to the addition of our Brazilian sites to our reporting at the beginning of 2018, and to specific issues at two sites in Europe. Our

Facture mill in France had issues with recovered paper quality and removing water from rejects leading to increased weight of rejects, and the Mengibar mill in Spain experienced difficulties in its recycled fibre repulping that led to more rejects.

Less than 1% of our waste is classified as hazardous, most of which is 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 the complexity and/or lack of clarity of local or national rules as to how to define certain waste materials as hazardous or non-hazardous, we believe that the actual amounts of hazardous waste are conservatively reported in this report.

The amount of hazardous waste has increased in 2018 compared to 2017 from 8,200 tonnes to 10,600 tonnes for the Group in total. The amount of hazardous waste sent for treatment varies from year-on-year due to multiple reasons: maintenance of machinery, additives used in products and, most importantly, the rate in which tanks containing hazardous waste are filling. At many sites, this may take more than a year which then leads to variation between years. The key reason for an increase of hazardous waste in 2018 was a reclassification of ashes in our Zulpich mill as hazardous waste.

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. Using recycled fibres as part of our raw material helps avoid litter and waste sent to landfill but also generates avoided emissions from landfills.

CASE STUDY

EXTRA CYCLE FOR CORRUGATE CLIPPINGS

SK Neuburg in Germany was challenged by its customer to find a mono-material packaging solution for office chairs. Before, the chair's back rest was protected with plastic foam material as well as shrink wrap. With innovation from SK Neuburg, the chair is now packed in a corrugated box in which cushions made from paper sacks and paper clippings support the back rest. After the chair is delivered, all the packaging – including cushions – can be simply be recycled with other paper recycling.

Paper bags with corrugated clippings



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 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 for these streams. 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.

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

CASE STUDY

CONTINUING MATERIAL LIFE

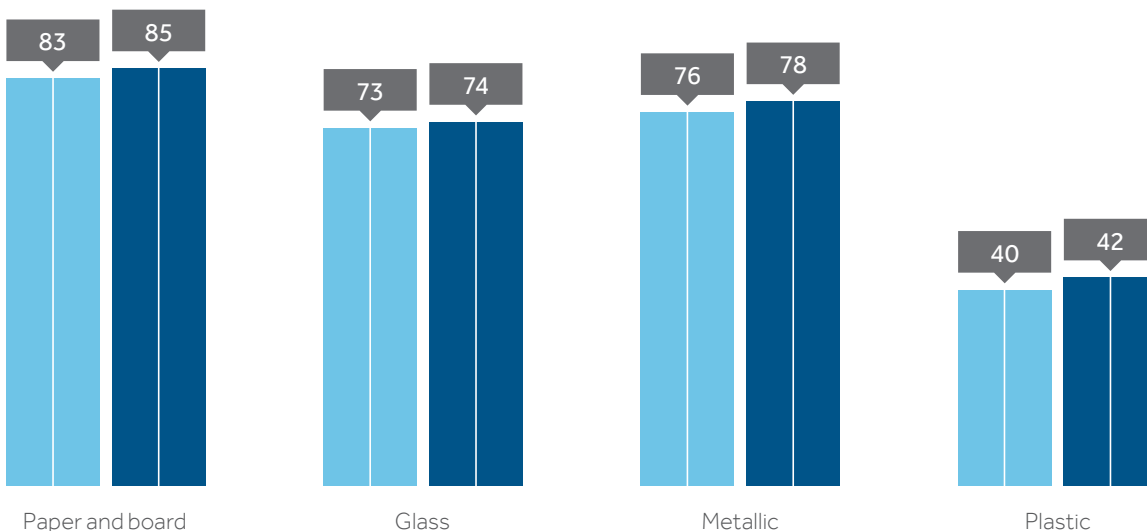
Bag-in-Box® is a safe and efficient way to store liquids. The advantage in this packaging system is that the liquid is stored in a vacuum and the packaging maintains the vacuum during use, while using up to 80% less plastic in comparison to traditional plastic packaging products used for similar solutions. This extends the lifetime of the stored liquid and helps use all the packaged product, whilst the

box gives the package a good protection, structure and shape. When producing Bag-in-Box®, we needed plastic film to make the bags. SK Bag-in-Box Spain looked for a new way to recycle plastic waste generated during the Bag-in-Box® production process. The solution was a partnership with a furniture producer, who uses the plastic film and tap material excess to create furniture.



Furniture from our production waste

Packaging Recycling Rate in EU 28 (%)
Source: Eurostat



Key:
■ 2015
■ 2016

#5 PEOPLE

People are at the heart of our operations. They include those we employ directly and indirectly, and people whose lives we impact.

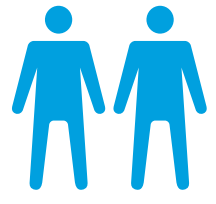
Smurfit Kappa focuses on individual merit, with a culture that supports and rewards entrepreneurial behaviour throughout our operations. Smurfit Kappa unites some 46,000 people around the globe. To achieve sustainable long-term success, we rely on their expertise and innovation. As a responsible business, we support global human rights and labour standards, and check that our suppliers do too. These standards are ILO Declaration on Fundamental Principles and Rights at Work, UN Global Compact, OECD Guidelines for Multinational Enterprises, UN Guiding Principles and the UN Declaration on Fundamental Human rights.

46,000
employees

24 hours
in training per employee

1.01
Total Recordable Injury Rate

3.2 million
euros in social investments



Relevant UN SDG's:



Our objective is to be a great place to work for our current employees and an employer of choice for our current and future employees.

A safe and healthy workplace is a fundamental right for every person at Smurfit Kappa, and is 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, injury and exposure to health hazards for every employee and all sub-contractors. Smurfit Kappa is committed to the communities where we operate, and our Foundations empower people to improve their lives. We aim to help end the cycle of poverty and dependence in some of the communities and countries where we operate.

Commitment #1

- Zero fatalities
- Reduce the Total Recordable Injury Rate (TRIR) by 5% annually
- 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:

In 2018 we reached a TRIR level of 1.01. This sets the basis to our reduction target.

Commitment #2

- Offer employees at all levels the chance to broaden their skillsets and knowledge, fulfil their potential and improve their career prospects
- Stimulate and encourage employee engagement through regular, Company-wide surveys and follow-ups
- Compensate fairly, review performance regularly and offer gender neutral career opportunities and pay
- Maintain a good faith reporting policy (Whistleblower Code) for employees to safely report any unethical or illegal conduct

TIMEFRAME: Continuous

PROGRESS MADE:

Progress in these areas have been discussed in the chapters People and Ethical and responsible.

Commitment #3

- Support youth education
- Promote research in areas related to our business (e.g. forestry and biodiversity)
- Benefit the local communities in which we operate

TIMEFRAME: Continuous

PROGRESS MADE:

In 2018 we invested 3.2 million euros in social projects.

Our perspective

We focus our efforts to be the employer of choice, that a healthy and safe workplace is the fundamental right of every person and only by being an active corporate citizen we can achieve long-term success.

Risks

As an industrial business operating in 35 countries with around 46,000 employees, we are responsible for the health and safety of a large number of people. Attracting the right talent to ensure succession planning and leadership continuity, particularly for sites in remote rural locations, where education levels may be insufficient.

Opportunities

At Smurfit Kappa we believe that Health and Safety extends from work to home. We engage our employees with policies and procedures to deliver, innovate and produce in a safe environment. It is important to gain recognition for our efforts in all aspects of sustainability: environmental responsibility, human rights, equal opportunities and fair pay – all important elements in being seen as a responsible, attractive employer. By supporting local education, income generation, collaboration and participation, we can strengthen communities and keep them attractive to our future workforce.

Strategic Priority #5: People continued

Our success depends on our people and those we affect, directly or indirectly. We aim to be well-respected by our employees and customers, and to earn the respect of people and communities where we are active.

The starting point for our approach lies in respecting human rights, and following the Smurfit Kappa Code of Business Conduct. Using this, we contribute to the following development goals: good health and well-being (No 3), quality education (No 4), gender equality (No 5), decent work and economic growth (No 8) and reduced inequality (No 10). It is important to us to be a good corporate citizen.

One of the most important challenges for Smurfit Kappa is attracting the talent we need for internal succession planning and leadership continuity. Due to our industry's nature, and the business-to-business environment in which we operate, competition from companies with stronger brand-awareness means we need to identify new ways to attract and recruit talent, with a specific focus on younger people and 'millennials'. In addition, many of our operations are in sparsely-populated rural areas, making it a challenge to recruit people with the necessary qualifications. Furthermore, given our strong manufacturing basis, attracting women applicants is a particular challenge and we have developed approaches to promote recruitment of women, ensuring we get the best people for our Company.

At Smurfit Kappa we promote a Health and Safety culture founded on authenticity, empowerment and accountability. Our vision is to operate with Health and Safety as a positive value, not just a priority. We believe that safe operation is non-negotiable – no task is so important it cannot be done safely. Our Health and Safety performance improved again in 2018, with a reduction in incidents well above our target figure. This was due to actions and initiatives implemented during the year, and we continually reinforce Health and Safety values to all our managers and employees with an ultimate goal of zero accidents globally.

PEOPLE VALUES

To achieve sustainable long-term success, we want to be a leading employer in all the countries where we operate. Smurfit Kappa unites some 46,000 people around the world, and together our employees make a huge difference for our customers. We commit to actively supporting our teams to achieve personal goals and full professional potential.

We are committed to managing in accordance with our declared values. We recognise that good social citizenship, shown 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 which 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 2018. We do not tolerate forced labour or physical abuse, from ourselves or from those with whom we do business. In 2018, 19 of our operations were subjected to Sedex Members Ethical Trade Audits.

COMPLIANT ACQUISITION PRACTICES

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

If any serious non-compliance to these policies and practices arises, the acquisition will be reconsidered. No such issues arose during the three acquisitions made in 2018.

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 2018, we have not had a confirmed case where either the association or bargaining rights of any individual or group of employees have been denied. Collective agreements, currently covering 70% 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 2018 (see pages 50 to 59).

MODERN SLAVERY ACT

Smurfit Kappa is subject to the provisions of the UK Modern Slavery Act. During 2019, we update our principles and policies with respect to our employees and suppliers to ensure compliance. See also our Annual Report page 50.

PEOPLE VISION AND STRATEGY

As part of our overall business vision and strategy, we developed a People Strategy to attract, engage, develop and retain talented people in SKG. We offer opportunities to our current employees and potential new joiners to achieve their full potential and employ their individual talent. The People Strategy helps achieve SK's long and short-term business targets and is based on six major pillars, plus the fundamentals illustrated in the picture on page 67.

TALENT ATTRACTION

SKG always aims to match the right person to the right role. There are two parts to this: ensuring that existing talent is developed and attracting new talent with the correct skill set. We want to ensure that our talent pipeline meets future leadership and other requirements to sustain our success.

CASE STUDY

ENGAGING FROM THE FIRST MOMENT

As a result of the first My Voice employee engagement survey in 2014, SK The Americas developed and launched an Onboarding Process – a three-stage programme aimed at increasing the engagement level of new hires. This new process is based on the idea that everybody is responsible for successful onboarding: the new employee, his/her manager of the new employee, HR, and other relevant colleagues.

The Onboarding Process has three stages:

Planning which focuses on good onboarding planning, from having all equipment and tools available from day one to a Buddy Programme in which a colleague supports the new hire in the introduction to the Company culture. For this stage a Manager's Guide handbook has been created to support the process.

Starting the Journey focuses on welcoming the new employee and providing them with the knowledge needed for their job. A Welcome Kit and Onboarding Passport were developed to support this stage.

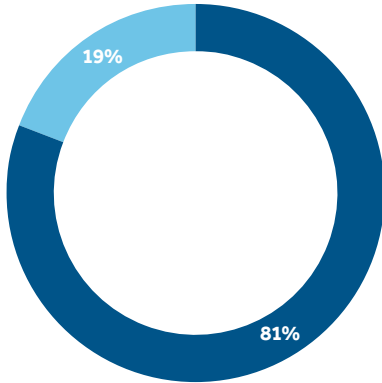
Follow-up is the final stage of the Onboarding Process and includes an evaluation of the process by the new employee and the manager. At this stage they are also asked about how engaged they feel.

The new approach has been a success and the feedback from the follow-up evaluations show that the new hire's satisfaction with the process has been rated between 'good' and 'excellent'.



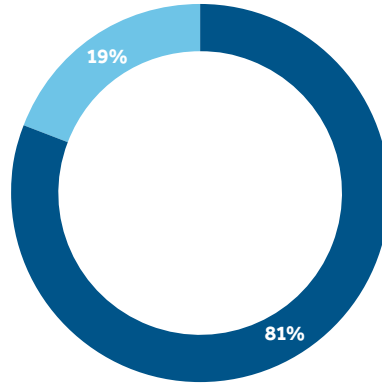
SK Argentina: Gastón Testone, Mariana Jacquet and Sabrina Kranjac in SK Argentina

Total Employees by Gender



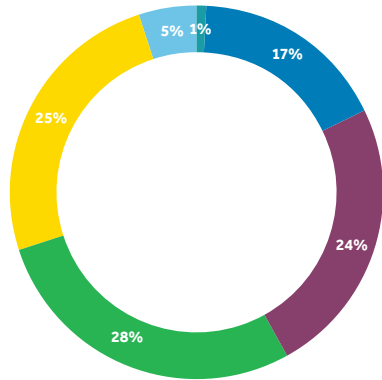
Key:
● Male ● Female

Management by Gender



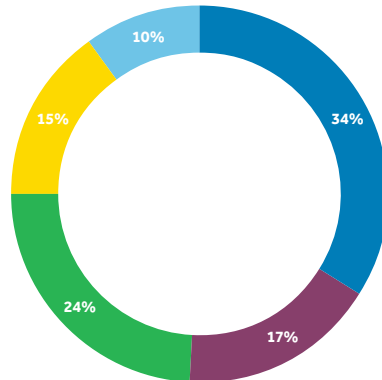
Key:
● Male ● Female

Employees by Age Group



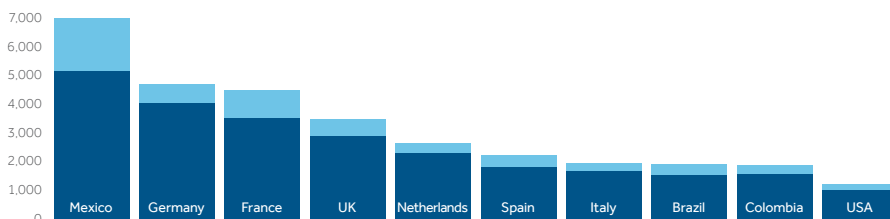
Key:
● <20 years ● 21-30 years
● 31-40 years ● 41-50 years
● 51-60 years ● >60 years

Length of Service



Key:
● <5 years ● 5-10 years
● 11-20 years ● 21-30 years
● >30 years

TOP 10 Countries, Total Employees by Gender



Key:
● Male ● Female

CASE STUDY

TOOLS FOR BUILDING STRONG, EMPOWERED TEAMS

“Truly great leaders inspire others to be their best,” says Lynne Case, General Manager of the Stalybridge plant in the UK.

Lynne has always believed in empowering people, but the SK Open Leadership @ INSEAD programme transformed her approach and her life.

“The programme is a huge investment for Smurfit Kappa,” says Lynne. “General Managers along with CEO’s, CFO’s and other Senior Leaders were invited from all of our regions and operations, for three visits, of over a week each time.”

Lynne completed the training programme two years ago, continuing with extramural studies since. She found it transformative: “I felt a great connection right from the start, reaffirming my belief SK is heading in the right direction on leadership. I was able to explore, test, observe, fail and learn to a level I would not have thought possible. I learnt about human behaviour, but also gained a real understanding of my own strengths and challenges. Most important of all, it showed me that by acknowledging vulnerability you allow people to relate and rally to you.”

“I always believed in building strong teams based on values and sharing the vision, but this gave me the tools to do it. It has been even more useful in the areas of engagement

and recognition, giving colleagues opportunities to become problem-solvers and believe in themselves. To do that you have to allow them to risk failure, to try things outside their comfort zones.”

For an example of how she applied this knowledge, she explains, “I applied it to myself. I cannot talk about taking risks and moving outside your comfort zone if I am not willing to do it myself. So, when Edwin Goffard, COO Corrugated Europe, suggested we embark on Performance Excellence, a revolutionary approach to quality and continuous improvement, it was exactly the kind of opportunity I had been encouraging people to take.”

Performance Excellence involves staff at all levels of the organisation, working cross-functionally and cross-departmentally to create continuous improvement at all levels of the organisation.

“It’s a new way of working, a new way of life,” says Lynne. “We had Edwin Goffard’s full backing, but we were the first SK company in the UK to try it. We are in the early stages, but the outlook is very encouraging – with empowerment across the site growing exponentially. It is the power of releasing people – they have the answers. Even the people who I thought had reached their potential have started to shine in different ways – you should never underestimate what is possible.”

I have so many elements that I have taken from all of the three modules of the Open Leadership programme and I have renewed my confidence through this experience to continue with this journey. I am thankful to have had such a great development opportunity.”

Lynne Case, General manager of the Stalybridge in UK

The Group offers graduate programmes in many countries where we operate. These programmes typically last two years and offer challenging assignments and opportunities. The aim is to attract top talent in various disciplines and offer the candidates the prospect of a successful career at SK.

We have recently launched a global campaign, ‘Where will You take us’. This conveys our commitment to listening to targeted talent and showing the unique opportunities that the Company offers. In the course of 2018 this campaign has been used successfully in many countries to attract talented people, for example through graduate/trainee programmes, university visits and job fairs. It also invites people to join SK and shape the Group’s future. The campaign message is supported by a wealth of communications, promoting the diversity and depth of the world of SK.

EMPLOYEE ENGAGEMENT

We believe that a company with engaged employees generates higher growth, faster innovation, greater customer satisfaction and better results, and that employees thrive in a better working environment. As stated in the People Vision, Smurfit Kappa strives to be a great workplace for its employees.

Employee Engagement being a continuous journey, the improvement of engagement levels is a long-term strategy priority. Our objective is to achieve a consistent progression of the level of engagement across all plants and mills. Over the last four years following the first global employee engagement survey, MyVoice 2014, the Group has implemented over 1,000 actions across our operations based on the survey outcomes.

The second MyVoice programme took place at the end of 2017 with the results disseminated early 2018. The response rate reached 84%, even higher than the 80% of the previous MyVoice survey. MyVoice 2017 gave valuable insights to how our employees think and feel about working in Smurfit Kappa, the elements they really value and the areas for further improvement. The level of engagement in all regions improved. The majority of employees are committed to Smurfit Kappa, they are proud to be part of the Company and would not hesitate to recommend it as an employer. Safety continued to be the highest-scoring engagement driver. Almost all our drivers showed improvements, particularly in the focus areas identified in 2014 such as Leadership, Career Opportunities and Reward & Recognition. The follow-up phase of action planning took place in the second quarter of 2018, addressing those areas identified in MyVoice 2017 as a priority. Actions have been 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 are being implemented.



MyVoice is considered by our employees as a trusted tool for continuous improvement, helping to make Smurfit Kappa an even greater place to work.

TRAINING AND LEADERSHIP DEVELOPMENT

As a Company, we are responsible for identifying the individual talents of our people and offering them development opportunities – this is a key objective for the Group. We encourage our employees to embrace learning and reach their potential through continuous personal development. We support training programmes at all organisational levels, creating many opportunities for individual progression.

Within our Smurfit Kappa Academy, we have developed a range of programmes to ensure effective career progression of our employees. Graduate Workshop

- Advanced Management Development Programme (AMD)
- Global Manager Programme (GMP)
- Open Leadership Programme @ INSEAD business school
- Business Economics Training
- Management for Continuous Improvement
- English Immersion Programme

Every year we assess participant satisfaction with our Group programmes, ensuring they meet needs and expectations. These programmes follow employees through the Company, from recently-joined graduates, through high-potential employees and those moving into management roles, right up to the highest levels of the Group.

In 2018, 374 employees attended Group training events. Since 2000, 429 high-potential people across the Group have successfully finished our Advanced Management Development Programme (AMD) and since its inception in 2012, 139 managers have completed our Global Manager Programme (GMP). Our Graduate Workshop is now run both in Europe and the Americas and to date 194 participants have attended.

In 2018 we worked to create connections between the alumni of our Open Leadership @ INSEAD programme and our graduate workshop attendees in Europe. We set up mentoring relationships, supporting our senior leaders in learning the motivations and perspectives of a new generation, and letting that generation benefit from the experience and perspective of senior leaders. To date, we have established 83 mentor/mentee developmental relationships, each lasting about a year.

At local level, teams and individual employees are also trained according to local needs and development strategies. The Group believes that learning never stops and we ensure that our employees receive appropriate training and development.



OPEN LEADERSHIP PROGRAMME

The Open Leadership model was created in 2015, involving Smurfit Kappa leaders at all levels. It identifies nine capabilities that we consider vital to achieve sustained growth and long-term success.

Smurfit Kappa has partnered with INSEAD, one of the world’s leading business schools,

to design a fully customised programme based on the Smurfit Kappa Open Leadership model. The model is organised under the following headings: Leading Self, Leading People, Leading the Organisation and Leading the Market.

Since its launch, 340 managers have joined the programme. Seven events were run in 2018, attended by 241 participants, and we plan to continue this successful programme with new eligible groups.

It is vital this programme makes an impact on the organisation and that participants take learning back to their lives and work. Therefore, in 2018, we launched our Open Leadership Programme Impact Survey for everyone who completed the programme in 2016 - 2017. This survey will continue to evaluate the impact of the programme over the coming years.

We are confident that this programme will help align our leadership development practice to the highest international standards and will fully meet the development needs of our diverse SKG leaders.

DIVERSITY AND INCLUSION

In Smurfit Kappa, we promote all forms of diversity at all organisational levels because we see diversity as one of our most important resources. Our three main objectives remain the priority:

- 1 Attracting and retaining people who enrich diversity within the Group
- 2 Ensuring the Group’s culture and management systems align with, and promote diversity
- 3 Monitoring, reviewing and reporting on diversity achievements within the Group, with a specific focus on gender diversity

We took a grassroots approach to inclusion and diversity, listening closely to our employees. A series of focus groups with diverse makeup helped us understand what makes a truly inclusive work environment. Ultimately, input from thousands of people led to us creating our EveryOne Inclusion and Diversity programme.



Strategic Priority #5: People continued

EveryOne means all of us: every single person in Smurfit Kappa has something unique to give and hidden talents to unpack. EveryOne aims to make sure that each of us feels supported, accepted and respected in our daily work.

We believe in celebrating our diverse cultures, diverse backgrounds and diverse ways of seeing the world. EveryOne asks that we all respect, support and accept each other, that we challenge our assumptions and keep our minds open. We have defined six key behaviours to promote inclusion in our day-to-day interactions with colleagues.

Tony Smurfit, Group CEO, along with approximately 500 managers, pledged support for a master plan of actions designed to promote an inclusive, respectful and supportive workplace at the 2018 Smurfit Kappa Management Conferences in Berlin and Miami, see picture below.

We recognise that a culture of Inclusion and Diversity creates good performance. Customers benefit from faster innovation as the diversity of perspectives within Smurfit Kappa helps find better solutions more quickly. It makes the Company more attractive to new talent, and means we can attract from a wider pool. Inclusion and Diversity increases the probability of achieving the Group's objectives, driving corporate performance and shareholder value. Finally, it is simply the right thing to do.

Diversity is 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, utilising the new and different ideas that come from a diverse team.

PERFORMANCE MANAGEMENT

SKG is committed to continuous personal and professional development of all its people. To deliver this, employees and managers engage in a continuous dialogue, clarifying the skills, capabilities, strengths and areas of improvement for each employee. This dialogue is a key element of the SK performance management process, enabling every employee to reach their own performance potential, contributing to their team and the Group's overall objectives. It helps us share understanding of our strategy and values throughout the organisation.

Our Performance Appraisal process, known as 'Performance Dialogue', focuses on two-way communication between managers and employees. However, given recent developments in this area, and to meet employee and business needs, we are working to refresh the process in 2020. We believe that generating more effective conversations can create a greater impact for employees and the business. It can also identify development needs at an earlier stage and annually increase the number of employees engaging in performance dialogue, which is our ultimate goal.

We also offer the opportunity for participants in our leadership training programme and GMP to be part of a 360-degree feedback exercise. In this, assessment of leadership styles and identification of areas for improvement come not just from senior managers, but also from colleagues and peers.

FAIR PAY, COMPENSATION AND BENEFITS

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

Wherever possible we engage with unions, works councils and employee representatives to ensure fair and sustainable collective labour wage agreements. Employees are rewarded in line with their individual and business performance.

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 WELL-BEING

In 2018, our global Health and Safety performance continued the positive trend set by recent years, with a further reduction in the number of accidents. There are focused safety improvement plans and strategies across our business that have proved to be effective in delivering stronger performance. It is notable that this is the first full year that our primary measure of performance was Total Recordable Injury Rate (TRIR) – we changed in the knowledge that achieving 'zero' will be more difficult.

A specific initiative for 2018 was to focus on managing higher level risks within our business, the ones that we have identified through incident investigations and external industry research that have the potential to cause significant injuries. This culminated in the launch of our Safety For Life campaign that was launched during our Health and Safety day, which is celebrated every year in each of our sites in April. We know good safety is good business and our vision is to operate with safety as a core value, not just a priority, so that everyone goes home safe every day. The Safety for Life campaign contributes to this with our '6 key areas' and will form the backbone of our safety effort throughout 2019 too. As usual, this event was kicked off with a video message from the Group CEO.



European Management Conference, Berlin 2018

CASE STUDY

SAFETY FOR LIFE

Strong Health and Safety is core to how Smurfit Kappa operate and is a primary concern in the area of Corporate Social Responsibility. Having our products produced in a safe and healthy environment is important to all our stakeholders, especially our employees, their families and the communities in which we operate.

Health and Safety is a mindset and, at Smurfit Kappa, we wanted to further develop this with the ambition to instill the 'safety first' mentality so deeply within the Company culture that we aspire to eliminate all serious incidents and accidents from our operations. "Strong Health and Safety is about individual and collective choices – human behaviour. We decided to build an emotional link between the choices we make at work and how that can affect the choices we are able to make in our personal lives – this was the birth of our Safety for Life initiative," says John Nicholls, VP Health and Safety SK Europe. "Our message is simple 'Every Smurfit Kappa employee has the right to return home safely to their families every day'."



Our Health and Safety community has identified six priority areas for which specific tools have been developed to promote safe choices at work. The areas are: energy isolation; contractors and visitors; contact with moving machines; people and vehicle interactions; warehouse and backyards; and working at heights. "We focus on these high-risk areas, whilst remembering we need full awareness every day as the work place is never really safe," explains Nicholls. "It is the actions of people that make it safe."

"It is important to remember that a work life balance often drives our people," says William Gonzalez, Health and Safety Manager SK The Americas. "Therefore, our main purpose of this campaign is to remind our employees, and everybody at our sites, that they return safely to their homes and families every single day." He continues, "The results are visible, and the overall trend in recordable incidents are decreasing."

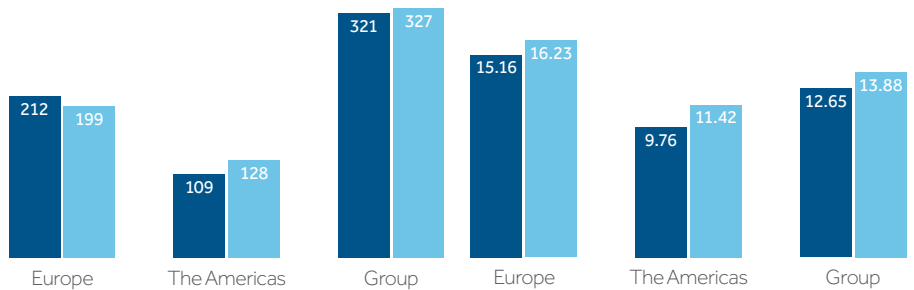
At Smurfit Kappa we know that the safe way is always the right way.

We are committed to continuously reviewing and improving our Health and Safety practices and performance, to progress towards our vision. 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.

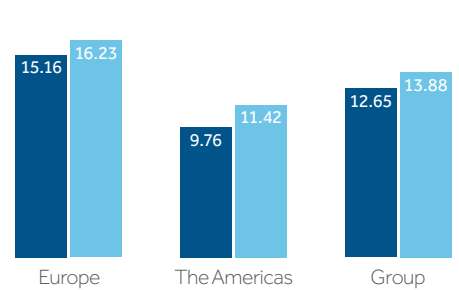
Smurfit Kappa has a structured approach to Health and Safety, through which we continually improve our safety performance. It is our policy to:

- 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 to 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

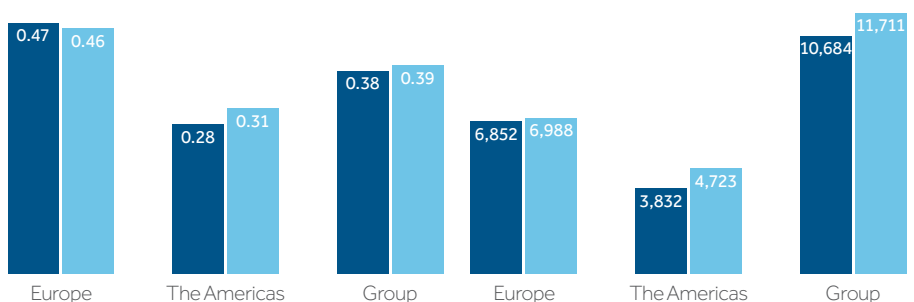
Number of Accidents
Full Year 2018 vs 2017



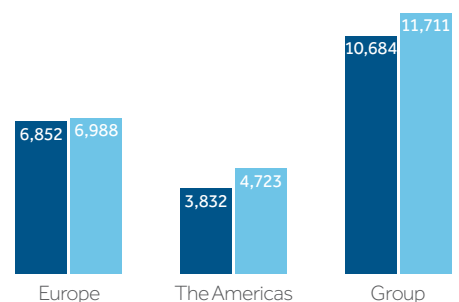
Lost Time Accident Severity Rate
Full Year 2018 vs 2017



Lost time Accident Frequency Rate
Full Year 2018 vs 2017



Number of Days Lost Due to Accidents
Full Year 2018 vs 2017



■ 2018 ■ 2017

Strategic Priority #5: People continued

- 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
 - Ensure that their employees and contractors are trained to work safely
 - Have processes in place to identify Health and Safety hazards so that risks are assessed and minimised to acceptable levels, to prevent the occurrence of injury and ill health to our employees, contractors, partners and visitors

- Group:
- Our target is to reduce TRIR by a minimum of 5% per year. In 2018 our TRIR was 1.01, setting the base for the target
- Europe:
- We established a 'top down' and 'bottom up' Health and Safety committee structure that ensures strong senior operational buy-in for Health and Safety initiatives and connects these to individual site strategies and improvement plans
 - The European Health and Safety Committee promoted consistency and good practice using cross-divisional Working Groups to deliver tailored Health and Safety Policies and processes
 - A similar Working Group delivered a comprehensive review to Health and Safety auditing, complete with a Policy for implementation

When compared with 2017, the Group has achieved the following Health and Safety performance improvements in 2018:

CASE STUDY

MAKING A LASTING IMPRESSION AT ERASMUS RECRUITMENT DAYS

The Erasmus Recruitment Days is the largest student-organised on-campus recruitment event in Europe' with over 100 companies and 2,500 students participating every year. SK Benelux HR invited 15 participants to a workshop to introduce them to Smurfit Kappa and the traineeship programme at SK Benelux through a practical assignment.

The participants were to create Shelf Ready Packaging using five materials within an hour. Not only did the workshop come up with creative and feasible solutions, but the students were impressed and gained a good understanding of the Company, opportunities and what an interesting and variable product a packaging can be.



Great opportunity for interaction with the participants.

CASE STUDY

LEARNING BY DOING IN AN INTERNATIONAL AND SUSTAINABLE COMPANY

We asked a group of ambitious and talented graduates, who are at various stages of the Smurfit Kappa International Graduate Programme, what is most important to them when seeking career opportunities.

They all said that they wanted to work in a company that was sustainable, global and part of a manufacturing or processing industry. It was Smurfit Kappa's robust credentials in all three areas that attracted them to apply.

"I was made aware of the Smurfit Kappa International Graduate Programme through a recommendation of a friend who is now a colleague," said Santiago Ángel Nieto from Colombia who is currently on the first of the three-part graduate programme.

Laurent Sellier, COO Paper Europe and programme sponsor, talked about what the central aims are: "What we want to do here is to equip our graduates with the technical know-how to launch a successful career in engineering, and within the programme we have designed a development plan covering the essential core business understanding needed to work in Smurfit Kappa.

"At the same time we want to be open to learning from the talent because the people bring so many different skills and perspectives."

"For me, this is the first rotation and I'm already learning a lot about the connection between paper and packaging. The learning curve is steep but it's very enjoyable," said Sarah Johnson, who is working currently at the Piteå quality laboratory in Sweden.

"The nice thing is that, while we are learning, our colleagues are also open to hearing about and helping with our projects. They also welcome a fresh view which means you feel that immediately you can have an impact in the organisation," said Matteo Ferrari from Italy who is currently working in Townsend Hook.

"One thing that I have learned through my projects in different teams is how to really integrate: how to become part of changing teams, build my expertise and get into the task at hand. I feel I have a much stronger knowledge of the day-to-day business now and in an international context it is interesting," said Svein Ollestad from Norway and Fabian Tosché from Germany.

For the talented young graduates, doing meaningful jobs through which they can drive the things that matter to them personally is important. Sarah El Abbouni, from France, explained:

"Through my rotations, I have been able to understand the global and local or functions and the dynamic between them."

All the graduates spoke about the importance of being able to work in a company or industry that is sustainable and has a responsible environmental footprint. Iker De Loma-Osario described how he has been working on analysing recovered paper in Roermond and said: "It is amazing how we are creating paper practically from something that could be waste. At the same time, paper is so variable, I think it is almost like life itself!"

Sarah Johnson added: "Paper-based packaging is so versatile and sustainable. The possibilities are endless and this really attracted me to the product."

The Smurfit Kappa International Graduate Programme is a two-year scheme involving three eight-month rotations around the business to give participants a deep insight into several aspects of the Company.



Strategic Priority #5: People continued

- Businesses acquired in 2018 began an integration program to ensure their H&S practices and beliefs were consistent with our expectations
- During the April Safety Day, we involved employees and contractors in activities on all site.
- The TRIR for the region was 1.08
- 74 sites in the region reported zero TRIR

The Americas:

- Operations continued the work on creating a safety culture among all our employees by promoting self-awareness, a safety for life campaign based on high-risk areas, leading by example, a new standard audit protocol and good practices report implemented, along with providing the necessary resources for safety
- Our operations continued to improve risk assessments and accident investigations, involving all the senior levels at all sites
- All of our operations improved in all high-risk areas, such as working in heights, ware house and backyards, as well as people and vehicles
- The TRIR for the region was 0.94
- 50 sites in the region reported zero TRIR

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 such projects in Colombia, Germany, Ireland, the Netherlands, Italy and the UK.

We estimate that as a Group, including our Smurfit Kappa Foundation, approximately €3.2 million was donated in cash and kind in 2018. This was for a wide range of activities, including children's education, health and social inclusiveness projects, and research into areas such as biodiversity.

€3.2m

donated in cash and kind in 2018 through our Group and Smurfit Kappa Foundations.

CASE STUDY

NEW APPROACH TO PROMOTING INTERNAL CAREER OPPORTUNITIES



Experience Centre, Manager Assessment Centre. August 27th 2018

Following the 2017 My Voice employee engagement survey, SK Mexico decided to improve the accessibility of the career opportunities internally. Part of this was an improvement of posting the vacancies more visibly, but another, new approach was a methodology in which recruitment decisions are made in a collaborative manner and this would be done through Assessment Centres.

The Assessment Centres offer an inclusive and dynamic competence evaluation between different representatives of the business units and applicants. Now, 31% of the new vacancies are recruited through the Assessment Centres and 95% of the vacancies that implemented Assessment Centres have been successfully covered. The amount of internal hires has increased from 20% to 70%.

CASE STUDY

YOUNG TALENT PROGRAMME, SPAIN, PORTUGAL & MOROCCO

The SK Spain, Portugal and Morocco Corrugated Division took inspiration from the International Graduate Programme and developed a training programme for talented young professionals in which they could get introduced to the corrugated business and

learn in different SK locations about different jobs that SK Spain, Portugal and Morocco has to offer. The benefit for the participants is to take a full international career opportunity within the three countries. Each trainee has three nine-month rotations in different positions

and at the end of their traineeship, they have an excellent opportunity to be offered a permanent role and then keep on growing within the organisation.



Our young talent



SUPPORT- ING DATA

IN THIS SECTION

Input/Output 2018

Europe

The Americas

Environmental Data 2018

Paper and Board Mills, Europe

Paper and Board Mills, The Americas

Operations Total, Europe

Operations Total, The Americas

Total Group Operations

Management System Certification

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Sourcing Data

Input/Output 2018

Europe

Input

WOOD AND FIBRE		
Wood ¹	5,078	ktonnes ar
Market virgin pulp	92	ktonnes ar
Other pulp	30	ktonnes ar
Recovered paper	4,019	ktonnes ar
Paper or board purchased	1,738	ktonnes ar
Plastic films, other plastic item (BIB)	25	ktonnes
Starch (all types)	278	ktonnes ar
Inorganic raw materials	232	ktonnes ar
Other organic raw materials	169	ktonnes ar

ENERGY

Energy from fossil fuels	26,614	TJ
Energy from purchased biofuels	5,069	TJ
Electricity from grid	1,711	GWh

WATER

Water intake ²	84	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 or 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 78-79. The latter pages show the energy consumption for the production of the paper or board manufactured.

Output

PRODUCTION		
Papers (a ll grades)	4,915	ktonnes
Corrugated packaging*	4,970	ktonnes
Board and laminated boards*	417	ktonnes
Converted board*	109	ktonnes
Sacks*	–	ktonnes
Other packaging	24	ktonnes

DIRECT EMISSIONS TO AIR

CO ₂ fossil	1,573	ktonnes
CO ₂ biogenic	3,243	ktonnes
Dust from fuels	0.48	ktonnes
SO _x from processes	0.57	ktonnes
NO _x from processes	3.6	ktonnes

ENERGY OUTPUT

Electricity to third party	320	GWh
Thermal energy to third party	266	TJ
Biomass sold	1,539	TJ

WASTES

Hazardous wastes	8.8	ktonnes
Non-hazardous wastes sent to landfill	229	ktonnes
Non-hazardous wastes recovered	305	ktonnes
Other non-hazardous wastes	10.0	ktonnes

DISCHARGES TO WATER

Water released	76	Mm ³
COD	25	ktonnes
BOD	9.7	ktonnes
Total suspended solids	4.5	ktonnes
N	0.44	ktonnes
P	0.06	ktonnes

Input/Output 2018

The Americas

Input

WOOD AND FIBRE

Wood ¹	944	ktonnes ar
Market virgin pulp	3.7	ktonnes ar
Other pulp	9.2	ktonnes ar
Recovered paper	1,595	ktonnes ar
Paper or board purchased	466	ktonnes ar
Plastic films, other plastic item (BIB)	3.5	ktonnes
Starch (all types)	64	ktonnes ar
Inorganic raw materials	67	ktonnes ar
Other organic raw materials	58	ktonnes ar

ENERGY

Energy from fossil fuels	14,525	TJ
Energy from purchased biofuels	2,303	TJ
Electricity from grid	840	GWh

WATER

Water intake ²	31	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 or 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 80-81. The latter pages show the energy consumption for the production of the paper or board manufactured.

Output

PRODUCTION

Papers (all grades)	1,497	ktonnes
Corrugated packaging*	1,596	ktonnes
Board and laminated boards*	106	ktonnes
Converted board*	68	ktonnes
Sacks*	54	ktonnes
Other packaging	3.2	ktonnes

DIRECT EMISSIONS TO AIR

CO ₂ fossil	954	ktonnes
CO ₂ biogenic	732	ktonnes
Dust from fuels	0.15	ktonnes
SO _x from processes	2.1	ktonnes
NO _x from processes	1.5	ktonnes

ENERGY OUTPUT

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

WASTES

Hazardous wastes	1.8	ktonnes
Non-hazardous wastes sent to landfill	290	ktonnes
Non-hazardous wastes recovered	18	ktonnes
Other non-hazardous wastes	1.5	ktonnes

DISCHARGES TO WATER

Water released	28	Mm ³
COD	16	ktonnes
BOD	5.4	ktonnes
Total suspended solids	3.5	ktonnes
N	0.79	ktonnes
P	0.16	ktonnes

Environmental Data 2018

Paper and Board Mills, Europe

		Nettingsdorf, Austria	Sangüesa, Spain	Facture, France	Piteå, Sweden	Morava, Czech Republic	Wrexen, Germany ⁵	Hoya, Germany ⁵	Zülpich, Germany
		bkl, tI	mg paper	bkl, wtkl, wttl	bkl, wtkl	tI, fI	wttl, sb, tI, fI	fI, tI, cart	fI, tI
PRODUCTION	ktonnes	450	83	456	719	66	303	443	483
ENERGY									
Electricity									
Co-generated	GWh	148	57	342 ¹	332	–	63	134	165
Self-generated	GWh	–	–	–	–	–	–	–	–
Hydro power	GWh	–	–	–	–	1.7	0.1	–	–
Net grid supply	GWh	127	86	17	273	21	33	40	30
Total electricity	GWh	275	142	358	605	23	95	173	195
Fuel usage									
Biofuels	TJ	3,795	2,138	8,142	10,533	14	53	73	356
Fossil fuels	TJ	1,076	194	666	109	334	1,424	2,513	2,840
Total fuels	TJ	4,871	2,332	8,808	10,642 ³	348	1,476	2,586	3,196
WATER WITHDRAWAL									
Surface	Mm ³	14.0	4.7	8.5	29.3	0.4	0.5	–	1.8
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 ⁴	Mm ³	14.2	4.8	9.3	29.7	0.4	1.1	2.4	2.3
DISCHARGES									
To air									
CO ₂ fossil direct	ktonnes	61	13	39	11	19	80	141	221
CO ₂ fossil indirect	ktonnes	21	25	1	3	11	15	18	13
CO ₂ biogenic	ktonnes	406	226	971	1,122	1	4	7	36
Dust	tonnes	35.1	9.5	24.3	371.2	0.2	0.0	0.0	0.1
NO _x as NO ₂	tonnes	309	96	650	696	9	40	95	217
SO _x as SO ₂	tonnes	21	31	61	82	0	0	2	97
To water									
Process water	Mm ³	5.18	4.54	9.24	12.42	0.25	0.31	1.77	–
Cooling water	Mm ³	7.42	–	–	17.40	–	0.46	0.06	1.20
COD	tonnes	8,314	163	3,756	2,673	23	72	267	–
BOD	tonnes	5,149	22	1,019	378	1	5	17	–
Total suspended solids	tonnes	798	71	734	623	5	4	42	–
Total N	tonnes	33.1	12.5	88.4	51.5	9.8	0.4	17.8	–
Total P	tonnes	3.2	0.6	12.9	14.7	0.5	0.2	2.0	–
WASTES									
Total non-hazardous wastes	tonnes	23,892	14,701	54,877	38,097	9,080	11,359	33,448	19,043
Landfill	tonnes	4,567	7,959	10,457	1,127	4,343	–	12	7,221
Recovery	tonnes	19,326	6,742	42,827	36,370	4,737	11,359	33,281	11,822
Other	tonnes	–	–	1,593	600	0	–	156	–
Hazardous wastes	tonnes	694	247	768	186	1	47	63	2,618

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	Saillat, France	Ania, Italy	Roermond, the Netherlands	SSK, United Kingdom	Townsend Hook, United Kingdom	Herzberger, Germany	Nervión, Spain	Total mills
fi, tl	tl	tl	fi, tl	fi, tl	tl, fi	tl, fi	fi, tl	sb	sackp	
233	73	63	250	224	634	219	220	259	153	5,331
105	–	–	17	72	118	60	84 ¹	77	124	1,896
–	0.0	–	–	–	–	–	–	–	0.0	0.0
–	–	–	1.5	–	–	–	–	0.5	–	3.9
– ²	26	23	90	– ²	45	– ²	2	15	62	890
105	26	23	109	72	163	60	87	92	185	2,790
25	–	–	103	45	218	39	33	–	3,421	28,990
1,558	357	273	1,216	1,374	2,678	1,315	1,775	1,645	173	21,517
1,583	357	273	1,319	1,420	2,896	1,354	1,808	1,645	3,594	50,506
1.5	0.6	–	1.9	–	1.9	–	1.0	4.4	3.0	73.4
0.0	–	0.4	–	1.5	–	1.0	–	0.0	–	6.8
0.1	–	0.0	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.7
1.6	0.6	0.5	1.9	1.5	2.1	1.2	1.1	4.4	3.2	82.0
88	20	15	68	77	151	74	100	92	12	1,281
–	1	1	4	–	22	0	1	7	18	161
7	1	3	9	3	17	4	6	–	370	3,194
0.3	0.3	0.0	0.2	0.0	0.0	0.0	0.0	1.2	30.2	472.8
504	22	8	27	30	128	119	221	34	299	3,504
111	8	4	2	1	15	0	5	2	83	526
1.11	0.48	0.38	1.66	1.25	1.63	0.86	0.80	1.30	2.26	45.44
–	–	–	–	–	–	–	–	2.87	–	29.42
247	30	36	183	129	264	4,138	106	136	2,139	22,676
10	3	3	4	13	7	1,997	4	10	509	9,150
50	9	7	37	16	25	1,436	24	24	202	4,105
43.6	6.0	3.4	21.8	8.3	44.2	44.6	12.9	1.7	4.4	404.4
1.8	1.0	0.6	1.6	0.8	2.4	16.3	0.8	0.6	0.4	60.2
36,566	5,174	1,659	17,570	19,655	38,749	26,073	29,738	28,511	87,650	495,843
36,372	748	1,075	17,054	6,270	7,783	12,349	22,596	–	83,127	223,060
194	3,835	584	516	13,385	30,848	13,657	7,142	28,452	4,523	269,599
–	591	–	–	–	118	68	–	59	–	3,184
55	13	3	14	30	17	66	23	55	13	4,912

bkl: brown kraftliner
cart: carton board
fl: recycled fluting

mg paper: machine glazed paper
tl: testliner

wtkl: white top kraftliner
wttl: white top testliner
sack p: sack paper

Environmental Data 2018

Paper and Board Mills, The Americas

		Bernal, Argentina	Coronel Suárez, Argentina	Bento, Brazil	Pirapetinga, Brazil	Uberaba, Brazil	Cali, Colombia
		tl, fl	tl, fl	fl, tl	tl, fl, wttl	tl, fl	p&w, sack p, cart, bkl, tl, scfl, pulp, wtkl
PRODUCTION	ktonnes	71	45	49	123	54	268
ENERGY							
Electricity							
Co-generated	GWh	–	–	–	–	–	217
Self-generated	GWh	–	–	–	–	0.0	–
Hydro power	GWh	–	–	–	–	–	–
Net grid supply	GWh	30	15	18	62	32	113
Total electricity	GWh	30	15	18	62	32	330
Fuel usage							
Biofuels	TJ	–	–	350	1,022	527	4,594
Fossil fuels	TJ	375	248	4	33	6	5,286
Total fuels	TJ	375	248	353	1,055	533	9,880
WATER WITHDRAWAL							
Surface	Mm ³	0.1	–	0.1	1.2	0.3	22.3
Ground	Mm ³	0.6	0.2	–	–	0.1	0.1
Grid	Mm ³	–	–	0.0	0.0	–	–
Total water ¹	Mm ³	0.7	0.2	0.2	1.2	0.4	22.5
DISCHARGES							
To air							
CO ₂ fossil direct	ktonnes	21	14	0	2	0	415
CO ₂ fossil indirect	ktonnes	12	6	3	10	5	23
CO ₂ biogenic	ktonnes	1	–	38	109	53	426
Dust	tonnes	0.0	0.0	29.8	42.3	30.2	33.9
NO _x as NO ₂	tonnes	21	13	27	94	74	850
SO _x as SO ₂	tonnes	5	0	0	5	0	1,959
To water							
Process water	Mm ³	0.47	0.13	–	0.92	0.27	22.23
Cooling water	Mm ³	0.16	–	–	–	–	–
COD	tonnes	65	32	–	663	880	7,200
BOD	tonnes	19	6	–	244	330	1,931
Total suspended solids	tonnes	12	14	–	78	75	1,756
Total N	tonnes	6.6	1.5	–	10.6	2.7	694.0
Total P	tonnes	0.1	0.1	–	1.8	0.8	150.9
WASTES							
Total non-hazardous wastes	tonnes	6,185	2,919	4,718	21,458	6,642	108,991
Landfill	tonnes	4,744	2,916	3,740	21,172	6,153	106,584
Recovery	tonnes	1,441	3	978	287	489	2,363
Other	tonnes	–	–	0	–	–	44
Hazardous wastes	tonnes	29	8	2	12	28	305

Notes

- Total water includes rainwater and waste water from another organisation
Water discharges: in italic mills that do not discharge their process water to surface
- Venezuelan operations are reported until Q2 due to the disintegration in September 2018.

Barranquilla, Colombia	Barbosa, Colombia	Los Reyes, Mexico	Cerro Gordo, Mexico	Monterrey, Mexico	Forney, US	Caracas, Venezuela ²	Valencia, Venezuela ²	San Felipe, Venezuela ²	Total mills
tl, fl	fl, tl	fl, tl	tl, cart, fl	fl, tl	tl, fl	tl	cart	sc fl, bkl	
64	108	114	304	35	327	2	5	34	1,603
34	48	-	-	-	32	-	11	44	386
0.0	-	-	-	-	-	-	6.4	1.3	7.7
-	-	-	-	-	-	-	-	-	-
4	8	64	159	20	112	2	-	4	642
39	55	64	159	20	144	2	18	49	1,036
-	-	-	-	-	370	-	-	338	7,201
649	740	662	1,379	255	1,418	57	413	1,491	13,014
649	740	662	1,379	255	1,788	57	413	1,828	20,215
0.7	0.9	-	-	-	-	0.0	-	-	25.6
-	-	0.5	1.4	0.1	-	-	0.1	0.4	3.5
0.0	-	-	-	0.1	1.1	0.1	0.0	-	1.3
0.7	0.9	0.7	1.5	0.2	1.1	0.1	0.1	0.4	30.7
36	50	37	78	14	80	3	23	85	859
1	2	29	73	9	51	0	0	1	224
-	-	-	-	0	43	-	-	39	709
2.2	1.2	0.0	3.2	0.0	2.9	0.0	0.0	5.4	151.1
16	58	15	56	7	61	2	29	116	1,440
0	91	0	1	0	14	0	0	4	2,080
0.65	0.74	0.40	0.81	0.10	0.59	0.10	0.06	0.31	27.79
-	-	-	-	-	-	-	-	-	0.16
2,240	3,237	531	501	33	747	35	12	196	16,373
1,164	1,310	43	49	6	186	18	2	17	5,324
428	439	203	158	13	193	49	3	27	3,449
15.0	9.3	1.6	4.9	1.5	37.9	2.1	0.3	0.5	788.4
0.3	1.5	0.7	1.8	0.2	4.8	0.2	0.0	0.1	163.2
3,210	9,021	17,556	40,444	3,325	48,878	197	2,185	1,556	277,284
3,107	7,950	17,369	39,678	3,251	48,669	191	2,165	592	268,280
104	1,071	187	765	74	209	6	20	18	8,015
-	-	-	-	-	-	-	-	945	989
14	7	22	12	5	0	4	5	10	464

bkl: brown kraftliner
 cart: carton board
 fl: recycled fluting
 sc fl: semi-chemical fluting

p&w: printing and writing paper
 pulp: virgin pulp sold externally
 tl: testliner
 wtkl: white top kraftliner

wttl: white top testliner
 sack p: sack paper

Environmental Data 2018

Operations Total, Europe

		Paper and Board Mills	Integrated Corrugated Operations	Other Packaging Operations	Other Operations	Total Operations
PRODUCTION	ktonnes	5,331	4,665	439	2,826	
ENERGY						
Electricity						
Co-generated	GWh	1,896	–	–	–	1,896
Self-generated	GWh	0	0	–	–	0
Hydro power	GWh	4	–	–	–	4
Net grid supply	GWh	890	543	87	4	1,523
Total electricity	GWh	2,790	543	87	4	3,423
Fuel usage						
Biofuels	TJ	28,990	171	1	–	29,161
Fossil fuels	TJ	21,517	4,198	149	80	25,944
Total fuels	TJ	50,506	4,368	150	80	55,105
WATER WITHDRAWAL						
Surface	Mm ³	73.4	0.0			73.4
Ground	Mm ³	6.8	0.3	0.0		7.1
Grid	Mm ³	0.7	1.4	0.1	0.0	2.3
Total water ¹	Mm ³	82.0	1.7	0.1	0.0	83.9
DISCHARGES						
To air						
CO ₂ fossil direct	ktonnes	1,281	240	9	6	1,535
CO ₂ fossil indirect	ktonnes	161	165	27	1	355
CO ₂ biogenic	ktonnes	3,194	18	0	–	3,212
Dust	tonnes	473	3	0	0	476
NO _x as NO ₂	tonnes	3,504	84	3	4	3,594
SO _x as SO ₂	tonnes	526	36	1	4	566
To water						
Process water	Mm ³	45.4	0.6	0.1	–	46.1
Cooling water	Mm ³	29.4	0.1	0.0	0.0	29.5
COD ²	tonnes	22,676	2,209			24,885
BOD ²	tonnes	9,150	518			9,668
Total suspended solids ²	tonnes	4,105	435			4,540
Total N ²	tonnes	404	34			439
Total P ²	tonnes	60	1			61
WASTES						
Total non-hazardous wastes	tonnes	495,843	34,898	7,256	6,798	544,795
Landfill	tonnes	223,060	4,577	716	1,098	229,451
Recovery	tonnes	269,599	24,069	6,152	5,518	305,337
Other	tonnes	3,184	6,252	388	182	10,007
Hazardous wastes	tonnes	4,912	3,425	495	5	8,837

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 2018

Operations Total The Americas

		Paper and Board Mills	Other Operations	Total Operations
PRODUCTION	ktonnes	1,603	3,350	
ENERGY				
Electricity				
Co-generated	GWh	386	–	386
Self-generated	GWh	8	0	8
Hydro power	GWh	–	0	0
Net grid supply	GWh	642	191	833
Total electricity	GWh	1,036	192	1,227
Fuel usage				
Biofuels	TJ	7,201	218	7,419
Fossil fuels	TJ	13,014	1,511	14,525
Total fuels	TJ	20,215	1,729	21,944
WATER WITHDRAWAL				
Surface	Mm ³	25.6	0.1	25.7
Ground	Mm ³	3.5	0.3	3.8
Grid	Mm ³	1.3	0.4	1.7
Total water ¹	Mm ³	30.7	0.7	31.5
DISCHARGES				
To air				
CO ₂ fossil direct	ktonnes	859	95	954
CO ₂ fossil indirect	ktonnes	224	73	297
CO ₂ biogenic	ktonnes	709	23	732
Dust	tonnes	151	4	155
NO _x as NO ₂	tonnes	1,440	38	1,478
SO _x as SO ₂	tonnes	2,080	47	2,128
To water				
Process water	Mm ³	27.8	0.1	27.9
Cooling water	Mm ³	0.16	–	0.16
COD ²	tonnes	16,373	59	16,431
BOD ²	tonnes	5,324	31	5,354
Total suspended solids ²	tonnes	3,449	15	3,463
Total N ²	tonnes	788.4	0.7	789.0
Total P ²	tonnes	163.2	0.1	163.3
WASTES				
Total non-hazardous wastes	tonnes	277,284	31,520	308,804
Landfill	tonnes	268,280	21,270	289,550
Recovery	tonnes	8,015	9,693	17,708
Other	tonnes	989	557	1,546
Hazardous wastes	tonnes	464	1,314	1,777

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 2018

Total Group Operations

		All operations				
		2018	2017	2016	2015	2014
ENERGY						
Electricity						
Co-generated ¹	GWh	2,282	2,413	2,297	2,239	2,308
Self-generated	GWh	8	15	33	26	44
Hydro power	GWh	4	4	5	6	6
Grid supply	GWh	2,356	2,344	2,422	2,379	2,333
Total electricity	GWh	4,650	4,778	4,757	4,651	4,692
Fuel usage						
Biofuels	TJ	36,580	37,158	36,014	35,232	34,545
Fossil fuels	TJ	40,469	43,623	43,802	42,715	43,333
Total fuels	TJ	77,049	80,781	79,816	77,948	77,878
WATER WITHDRAWAL						
Surface	Mm ³	99.1	101.0	102.2	100.8	100.6
Ground	Mm ³	10.9	12.7	13.7	14.2	15.9
Grid	Mm ³	3.9	4.2	4.0	3.8	3.4
Total water ²	Mm ³	115.3	119.5	121.2	120.1	121.1
DISCHARGES						
To air						
CO ₂ fossil direct	ktonnes	2,489	2,670	2,684	2,607	2,648
CO ₂ fossil indirect	ktonnes	652	647	691	678	659
CO ₂ biogenic	ktonnes	3,944	4,038	3,936	3,764	3,698
Dust	tonnes	631	666	590	442	562
NO _x as NO ₂	tonnes	5,072	5,385	5,313	5,239	4,887
SO _x as SO ₂	tonnes	2,694	2,569	3,034	2,951	2,728
To water						
Process water	Mm ³	74.0	76.4	77.1	79.1	80.0
Cooling water	Mm ³	29.7	30.2	33.9	31.5	32.6
COD ³	tonnes	41,316	40,425	41,794	37,690	39,116
BOD ³	tonnes	15,022	14,988	14,326	14,072	12,100
Total suspended solids ³	tonnes	8,004	8,756	8,596	9,205	9,840
Total N ³	tonnes	1,228	1,374	983	877	796
Total P ³	tonnes	224	89	126	139	114
WASTES						
Total non-hazardous wastes	tonnes	853,599	851,241	847,521	825,844	837,024
Landfill	tonnes	519,000	504,522	487,186	450,914	444,812
Recovery	tonnes	323,045	325,585	347,328	367,754	365,411
Other	tonnes	11,553	21,133	13,007	7,175	26,801
Hazardous wastes	tonnes	10,614	8,242	6,826	7,112	8,767

Notes

- 1 CHP partly or totally outsourced
- 2 Total water includes rainwater and waste water from another organisation
- 3 Sum of available data (for mills details are reported in individual tables)

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	ISO 45001	EN 15593	FSSC 22000	ISO 50001	FSC	PEFC	SFI
EUROPE											
Wood sourcing											
ES	Central Forestal			YES					YES	YES	
FR	Comptoir du Pin Aquitaine			YES					YES	YES	
Virgin mills											
AT	Nettingsdorf	YES	YES		YES	YES			YES	YES	
ES	Nervión	YES	YES	YES		YES		YES	YES	YES	
	Sangüesa	YES	YES	YES		YES			YES	YES	
FR	Cellulose du Pin	YES	YES	YES		YES			YES	YES	
SE	Piteå	YES	YES	YES			YES	YES	YES	YES	
Recycled mills											
CZ	Morava	YES	YES	YES		YES		YES	YES	YES	
ES	Mengibar	YES	YES	YES		YES			YES	YES	
FR	Alfa D'Avignon	YES	YES			YES			YES	YES	
	Rethel	YES	YES			YES			YES	YES	
	Saillat	YES	YES	YES		YES		YES	YES	YES	
DE	Herzberger	YES	YES	YES		YES		YES	YES	YES	
	Hoya ¹	YES	YES	YES		YES		YES	YES	YES	
	Wrexen ¹	YES	YES	YES		YES		YES	YES	YES	
	Zülpich	YES	YES	YES		YES		YES	YES	YES	
IT	Ania	YES	YES	YES		YES			YES	YES	
NL	Roermond	YES	YES	YES		YES		YES	YES	YES	
UK	SSK	YES	YES	YES		YES		YES	YES	YES	
	Townsend Hook	YES	YES	YES		YES		YES	YES	YES	
THE AMERICAS											
Wood sourcing											
CO	Colombian Forest								YES		
Virgin mill											
CO	Cali		YES						YES		
Recycled mills											
AR	Bernal		YES					YES	YES		
	Coronel Suárez		YES						YES		
BR	Bento	YES							YES		
	Pirapetinga	YES							YES		
	Uberaba	YES							YES		
CO	Barbosa		YES						YES		
	Barranquilla		YES						YES		
ME	Cerro Gordo	YES	YES						YES		
	Los Reyes	YES	YES						YES		
	Monterrey	YES	YES						YES		
US	Forney		YES	YES					YES	YES	YES

Note

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

Social Data

Social Citizenship and Health and Safety

	2018	2017	2016	2015	2014
SOCIAL CITIZENSHIP (FTE)					
Total number of employees ¹	44,959	46,418	45,314	44,599	41,816
of whom female (%) ²	19%	19%	18%	17%	17%
Employees leaving the Company ³	6,224	1,666	1,687	1,971	1,675
of whom resignation and retirement (%)	58%	74%	64%	62%	62%
Employees joining the Company ³	6,675	2,318	2,054	2,217	1,826
Age distribution (%)					
<20 years	1%	1%	1%	1%	1%
21-30 years	17%	17%	17%	17%	16%
31-40 years	24%	25%	25%	25%	25%
41-50 years	28%	29%	29%	30%	31%
51-60 years	25%	24%	24%	23%	23%
>60 years	5%	4%	4%	4%	4%
Employees turnover (%)	15.5%	4.0%	4.1%	4.9%	4.4%
Length of service, above 11 years (%)	49%	49%	50%	50%	51%
Female in management (%)	19%	20%	19%	17%	17%
HEALTH AND SAFETY					
Lost time accidents (LTA)	321	327	352	364	414
Contractor lost time accidents (CLTA)	48	30	45	62	227
Days lost due to accidents (DLA)	10,683	11,711	11,166	9,924	11,460
Accident severity rate (ASR) (%)	12.65%	13.88%	13.43%	13%	15%
Frequency rate (FR)	0.38	0.39	0.42	0.47	0.55
Total Recordable Injury Rate ⁴	1.01				
Fatalities					
Own employees	0	2	1	0	0
(Sub) contractors	0	0	1	1	1

Notes

1 Based on full-time equivalent of employees and contractors

2 Based on SK employees only (excluding contractors)

3 This data has been derived from Hyperion Financial Management data system (HFM). Since 2018 all countries have registered in HFM, and data accuracy has improved. This has led to an increase in the joiners and leavers data compared to 2017.

4 New indicator since 2018.

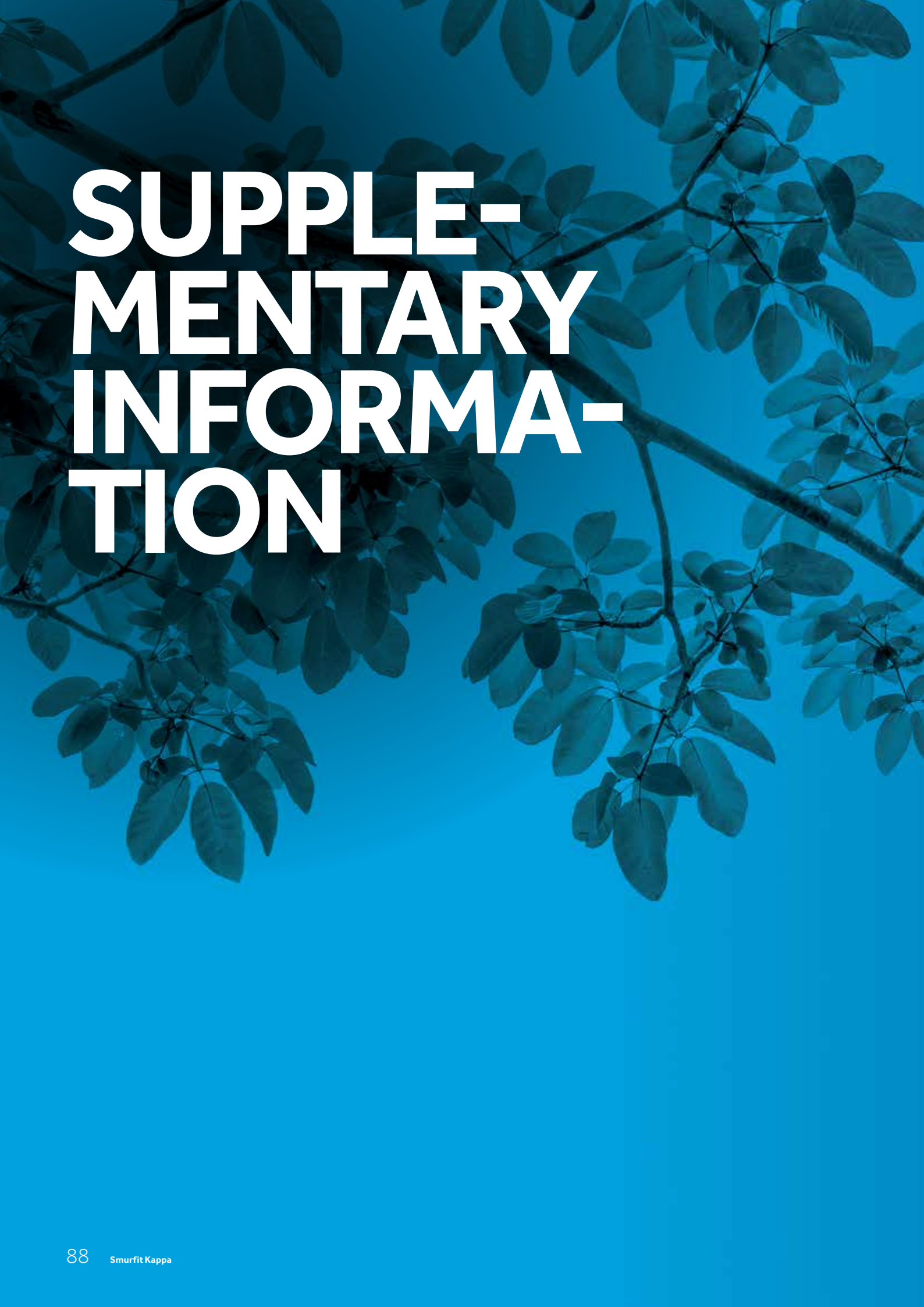
Sourcing Data

Sourcing and Sustainable Fibre Data

	2018	2017	2016	2015	2014
SOURCING DATA					
Number of audits					
Preferred and Multinational suppliers	32	55	47	53	49
Regional and Local suppliers	41	40	28	39	39
Satisfactory scores					
Preferred and Multinational suppliers	31	46	46	48	46
Regional and Local suppliers	28	33	21	29	25
SUSTAINABLE FIBRE					
Wood supplied from certified forests ¹	55%	57%	59%	56%	57%
Wood supplied from non-controversial sources ¹	45%	43%	41%	44%	43%
Paper produced as certified ¹	91%	91%	91%	93%	88%
Packaging sold as certified ¹	88.4%	88.0%	74.0%	74.0%	41.0% ²
External papers purchased as certified ¹	99.5%	98.5%	³	³	³
Recycled fibres in global production	74.5%	74.4%	74.0%	74.2%	74.3%

Notes

- 1 Either FSC, PEFC or SFI
- 2 Europe only
- 3 Data not assured



SUPPLE- MENTARY INFORMA- TION



IN THIS SECTION

About This Report

GRI Index

Business in the Community, Ireland

UN Global Compact

Glossary

Assurance Report of the Independent Auditor

About This Report

ACQUISITIONS, DIVESTITURES AND DECONSOLIDATION IN 2018

During 2018, Smurfit Kappa acquired two corrugated plants in France (Papcart and Caradec Box Plant) and a paper mill in the Netherlands (Parenco). With the acquisition of the Parenco paper mill we added a new recovered paper depot to our system.

In 2018, we divested a sheet plant in Finland (Pirkan Pakkaus).

After almost 65 years of successfully operating in Venezuela, due to the continuing actions and interference of the government of Venezuela the Group deconsolidated its Venezuelan operations in August 2018.

Environmental data on the acquired and divested sites is not included in the 2018 data presented in this report. The acquisitions and divestment do not significantly impact our targets that are being measured on specific volume performance.

The deconsolidation of our operations in Venezuela impacts the reporting for the year 2018. Due to the situation in the country and break in the flow of information from the sites, data from the operations has been included in this report where reliable. Environmental information from the three paper mills, formerly part of the Group, has been reported until 30 June 2018. In the absence of any fatalities prior to the deconsolidation, the former Venezuelan operations do not fall within the scope of the Health and Safety coverage in this report. In terms of target baseline data, the deconsolidation of our former operations in Venezuela will be treated following the same principles as if the sites were closed and the information will remain in the baseline.

Smurfit Kappa applies a two-year integration process to the acquired operations. The new operations have to put in place third-party certified management systems as required by the Group within this period. The operations start to report about these systems immediately after their certification. This process has the greatest effect on the certified Chain of Custody related reporting.

Apart from the impact on the reporting of our former operations in Venezuela, 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 2018.

ACQUISITIONS IN 2019

In January 2019, the Group completed the acquisition of the FHB containerboard mill and Avala Ada corrugated plant in Serbia. In March 2019, our geographic footprint in the Balkan region was further strengthened by the acquisition of a corrugated plant in Bulgaria. In April 2019, we completed the acquisition of a second corrugated plant in Bulgaria.

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 its manufacturing operations that were operational at the end of 2018 with the exception of our former operations in Venezuela, Papcart, Caradec Box Plant and Parenco.

Our targets are measured against produced tonnes of paper rather than absolute values as the Group is in dynamic growth mode 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 GRI Standards (comprehensive) 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 make continuous efforts 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 metered 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 98 to 103.

Ongoing initiatives continue to further standardise the data gathering system at Smurfit Kappa to improve data quality and consistency in the use of Group definitions and 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 104.

GRI-Index

GRI Standard Number	Disclosure Number	Disclosure Title and Description	Source/Comment	Page(s)
CATEGORY: GENERAL DISCLOSURES				
GRI 102: GENERAL STANDARD DISCLOSURES				
Organisational Profile				
GRI 102	GRI 102:1	Name of the organisation	SDR	Cover
GRI 102	GRI 102:2	Activities, brands, products and services	SDR	2-3
GRI 102	GRI 102:3	Location of headquarters	SDR	back cover
GRI 102	GRI 102:4	Location of operations	SDR/AR	2-3/6-7
GRI 102	GRI 102:5	Ownership and legal form	AR	60-86
GRI 102	GRI 102:6	Markets served	Website	
GRI 102	GRI 102:7	Scale of the organisation	SDR/AR	2-3/2-7
GRI 102	GRI 102:8	Information on employees and other workers	SDR	62-73, 90
GRI 102	GRI 102:9	Supply chain	SDR	29-30, 87
GRI 102	GRI 102:10	Significant changes to the organisation and its supply chain	SDR/AR	90/142
GRI 102	GRI 102:11	Precautionary principle or approach	AR	63, 144
GRI 102	GRI 102:12	External initiatives	SDR	28-29
GRI 102	GRI 102:13	Membership of associations	SDR	29
Strategy				
GRI 102	GRI 102:14	Statement from senior decision-maker	SDR	8-9
GRI 102	GRI 102:15	Key impacts, risks and opportunities	SDR	4-7, 28-73
Ethics and Integrity				
GRI 102	GRI 102:16	Values, principles, standards and norms of behaviour	SDR/AR	28-29/65-67
GRI 102	GRI 102:17	Mechanisms for advice and concerns about ethics	SDR/Website: Whistleblower policy	28
Governance				
GRI 102	GRI 102:18	Governance structure	AR	60-86
GRI 102	GRI 102:19	Delegating authority	SDR	28-29
GRI 102	GRI 102:20	Executive-level responsibility for economic, environmental and social topics	SDR	28
GRI 102	GRI 102:21	Consulting stakeholders on economic, environmental and social topics	SDR	10-13
GRI 102	GRI 102:22	Composition of the highest governance body and its committees	AR	60-86
GRI 102	GRI 102:23	Chair of the highest governance body	AR	60
GRI 102	GRI 102:24	Nominating and selecting the highest governance body	AR	60-86
GRI 102	GRI 102:25	Conflicts of interest	AR	63-64
GRI 102	GRI 102:26	Role of highest governance body in setting purpose, values, and strategy	AR	60-86
GRI 102	GRI 102:27	Collective knowledge of highest governance body	AR	64-65
GRI 102	GRI 102:28	Evaluating the highest governance body's performance	AR	65
GRI 102	GRI 102:29	Identifying and managing economic, environmental and social impacts	SDR	14-15
GRI 102	GRI 102:30	Effectiveness of risk management processes	AR	35-35
GRI 102	GRI 102:31	Review of economic, environmental and social topics	AR	48-51
GRI 102	GRI 102:32	Highest governance body's role in sustainability reporting	SDR/AR/Website	28/63
GRI 102	GRI 102:33	Communicating critical concerns	SDR/AR	28/63-67
GRI 102	GRI 102:34	Nature and total number of critical concerns	SDR	28-29, 64
GRI 102	GRI 102:35	Remuneration policies	AR	74-85
GRI 102	GRI 102:36	Process for determining remuneration	AR	74-85
GRI 102	GRI 102:37	Stakeholders' involvement in remuneration	AR	74
GRI 102	GRI 102:38	Annual total compensation ratio	AR	77-85
GRI 102	GRI 102:39	Percentage increase in annual total compensation ratio	AR	80-81

GRI-Index continued

GRI Standard Number	Disclosure Number	Disclosure Title and Description	Source/Comment	Page(s)
Stakeholder Engagement				
GRI 102	GRI 102:40	List of stakeholder groups	SDR	10-13
GRI 102	GRI 102:41	Collective bargaining agreements	SDR	64
GRI 102	GRI 102:42	Identifying and selecting stakeholders	SDR	10
GRI 102	GRI 102:43	Approach to stakeholder engagement	SDR	10-13
GRI 102	GRI 102:44	Key topics and concerns raised	SDR	15, 33, 41, 49, 57, 60, 62
Reporting Practices				
GRI 102	GRI 102:45	Entities included in the consolidated financial statements	AR	159-160
GRI 102	GRI 102:46	Defining report content and topic boundaries	SDR	15, 33, 41, 49, 56, 63, 90
GRI 102	GRI 102:47	List of material topics	SDR	15
GRI 102	GRI 102:48	Restatements of information	SDR	90
GRI 102	GRI 102:49	Changes in reporting	SDR	90
GRI 102	GRI 102:50	Reporting period	SDR	This report covers the period 2018
GRI 102	GRI 102:51	Date of most recent report	SDR	14 May 2018
GRI 102	GRI 102:52	Reporting cycle	SDR	Annual 90
GRI 102	GRI 102:53	Contact point for questions regarding the report	SDR	back cover
GRI 102	GRI 102:54	Claims of reporting in accordance with the GRI Standards	SDR	90
GRI 102	GRI 102:55	GRI content index	SDR	91-95
GRI 102	GRI 102:56	External assurance	SDR	104
GRI 103: MANAGEMENT APPROACH				
Reporting Practices				
GRI 103	GRI 103:1	Explanation of the material topic and its boundary	SDR	33, 41, 49, 56, 63
GRI 103	GRI 103:2	The management approach and its components	SDR/AR	28-29/87
GRI 103	GRI 103:3	Evaluation of the management approach	SDR/AR	28-29/87
CATEGORY: ECONOMIC				
GRI 201: ECONOMIC PERFORMANCE				
GRI 201	GRI 201:1	Direct economic value generated and distributed	AR	6-7
GRI 201	GRI 201:2	Financial implications and other risks and opportunities due to climate change	SDR/AR	42-43/87
GRI 201	GRI 201:3	Defined benefit plan obligations and other retirement plans	SDR/AR	68/74-86
GRI 201	GRI 201:4	Financial assistance received from government	SDR	28
GRI 202: MARKET PRESENCE				
GRI 202	GRI 202:1	Ratios of standard entry level wage by gender compared to local minimum wage	SDR	68
GRI 202	GRI 202:2	Proportion of senior management hired from the local community	SDR	64
GRI 203: INDIRECT ECONOMICS IMPACTS				
GRI 203	GRI 203:1	Infrastructure investments and services supported	AR	99-100, 143
GRI 203	GRI 203:2	Significant indirect economic impacts	AR	32-35
GRI 204: PROCUREMENT PRACTICES				
GRI 204	GRI 204:1	Proportion of spending on local suppliers	SDR	30
GRI 205: ANTI-CORRUPTION				
GRI 205	GRI 205:1	Operations assessed for risks related to corruption	SDR	28-29
GRI 205	GRI 205:2	Communication and training about anti-corruption policies and procedures	SDR	28-29
GRI 205	GRI 205:3	Confirmed incidents of corruption and actions taken	SDR	28-29

GRI Standard Number	Disclosure Number	Disclosure Title and Description	Source/Comment	Page(s)
GRI 206: ANTI-COMPETITIVE BEHAVIOUR				
GRI 206	GRI 206:1	Legal actions for anti-competitive behaviour, anti-trust and monopoly practices	SDR/AR	28-29/35
CATEGORY: ENVIRONMENTAL				
GRI 301: MATERIALS				
GRI 301	GRI 301:1	Materials used by weight or volume	SDR	76-77
GRI 301	GRI 301:2	Recycled input materials used	SDR	34
GRI 301	GRI 301:3	Reclaimed products and their packaging materials	SDR	N/A: SK produces packaging materials for other industries
GRI 302: ENERGY				
GRI 302	GRI 302:1	Energy consumption within the organisation	SDR	43-44, 76-77
GRI 302	GRI 302:2	Energy consumption outside of the organisation	SDR	76-77
GRI 302	GRI 302:3	Energy intensity	SDR	44, 78-81
GRI 302	GRI 302:4	Reduction of energy consumption	SDR	43-44, 78-81
GRI 302	GRI 302:5	Reductions in energy requirements of products and services	SDR	24-27, 44
GRI 303: WATER				
GRI 303	GRI 303:1	Interactions with water as a shared resource	SDR	48-53
GRI 303	GRI 303:2	Management of water discharge-related impacts	SDR	48-53
GRI 303	GRI 303:3	Water withdrawal	SDR	52, 78-81
GRI 303	GRI 303:4	Water discharge	SDR	53, 78-81
GRI 303	GRI 303:5	Water consumption	SDR	48, 52-53, 78-81
GRI 304: BIODIVERSITY				
GRI 304	GRI 304:1	Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	Website	
GRI 303	GRI 304:2	Significant impacts of activities, products, and services on biodiversity	SDR	38
GRI 303	GRI 304:3	Habitats protected or restored	SDR/Website	38
GRI 303	GRI 304:4	IUCN Red List species and national conservation list species with habitats in areas affected by operations	SDR/Website	38
GRI 305: EMISSIONS				
GRI 305	GRI 305:1	Direct (Scope 1) GHG emissions	SDR	43,44, 77-81
GRI 305	GRI 305:2	Energy indirect (Scope 2) GHG emissions	SDR	77-81
GRI 305	GRI 305:3	Other indirect (Scope 3) GHG emissions	SDR	47
GRI 305	GRI 305:4	GHG emissions intensity	SDR	44
GRI 305	GRI 305:5	Reduction of GHG emissions	SDR	43-44, 77-81
GRI 305	GRI 305:6	Emissions of ozone-depleting substances (ODS)	SDR	SOx,NOx, 78-81
GRI 305	GRI 305:7	Nitrogen oxides (NOx), sulfur oxides (SOx) and other significant air emissions	SDR	78-81
GRI 306: EFFLUENTS AND WASTE				
GRI 306	GRI 306:1	Water discharge by quality and destination	SDR	78-81
GRI 306	GRI 306:2	Waste by type and disposal method	SDR	78-81
GRI 306	GRI 306:3	Significant spills	SDR	No significant spills in 2018
GRI 306	GRI 306:4	Transport of hazardous waste	SDR	78-81
GRI 306	GRI 306:5	Water bodies affected by water discharges and/or runoff	Website	
GRI 307: ENVIRONMENTAL COMPLIANCE				
GRI 307	GRI 307:1	Non-compliance with environmental laws and regulations	SDR	28

GRI-Index continued

GRI Standard Number	Disclosure Number	Disclosure Title and Description	Source/Comment	Page(s)
GRI 308: SUPPLIER ENVIRONMENTAL ASSESSMENT				
GRI 308	GRI 308:1	New suppliers that were screened using environmental criteria	SDR	30-31
GRI 308	GRI 308:2	Negative environmental impacts in the supply chain and actions taken	SDR	30-31, 87
CATEGORY: SOCIAL				
GRI 401: EMPLOYMENT				
GRI 401	GRI 401:1	New employee hires and employee turnover	SDR	86
GRI 401	GRI 401:2	Benefits provided to full-time employees that are not provided to temporary or part-time employees	SDR	68
GRI 401	GRI 401:3	Parental leave	SDR	In 2018, 1,260 employees took parental leave and 1,126 returned from parental leave
GRI 402: LABOUR/MANAGEMENT RELATIONS				
GRI 402	GRI 402:1	Minimum notice periods regarding operational changes	SDR	64
GRI 403: OCCUPATIONAL HEALTH AND SAFETY				
GRI 403	GRI 403:1	Occupational health and safety management system	SDR	69-70
GRI 403	GRI 403:2	Hazard identification, risk assessment and incident investigation	SDR	69-70
GRI 403	GRI 403:3	Occupational health services	SDR	69-70
GRI 403	GRI 403:4	Worker participation, consultation, and communication on occupational health and safety	SDR	64, 69-70
GRI 403	GRI 403:5	Worker training on occupational health and safety	SDR	69-70
GRI 403	GRI 403:6	Promotion of worker health	SDR	69-70
GRI 403	GRI 403:7	Prevention and mitigation of occupational health and safety impacts directly linked by business relationships	SDR	69-70
GRI 403	GRI 403:8	Workers covered by an occupational health and safety management system	SDR	69-70
GRI 403	GRI 403:9	Work-related injuries	SDR	69, 86
GRI 403	GRI 403:10	Work-related ill health	SDR	69, 86
GRI 404: TRAINING AND EDUCATION				
GRI 404	GRI 404:1	Average training hours per employee in 2018:	SDR	24
GRI 404	GRI 404:2	Programme for upgrading employee skills and transition assistance programmes	SDR	67
GRI 404	GRI 404:3	Percentage of employees receiving regular performance and career development reviews	SDR	67
GRI 405: DIVERSITY AND EQUAL OPPORTUNITY				
GRI 405	GRI 405:1	Diversity of governance bodies and employees	SDR	64, 68
GRI 405	GRI 405:2	Ratio of basic salary and remuneration of women to men	SDR	64, 68
GRI 406: NON-DISCRIMINATION				
GRI 406	GRI 406:1	Incidents of discrimination and corrective actions taken	SDR	28, 64, 68
GRI 407: FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING				
GRI 407	GRI 407:1	Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	SDR	28-29, 64
GRI 408: CHILD LABOUR				
GRI 408	GRI 408:1	Operations and suppliers at significant risk for incidents of child labour	SDR	30-31, 64
GRI 409: FORCED OR COMPULSORY LABOUR				
GRI 409	GRI 409:1	Operations and suppliers at significant risk for incidents of forced or compulsory labour	SDR	30-31, 64

GRI Standard Number	Disclosure Number	Disclosure Title and Description	Source/Comment	Page(s)
GRI 410: SECURITY PRACTICES				
GRI 410	GRI 410:1	Security personnel trained in human rights policies or procedures	N/A	
GRI 411: RIGHTS OF INDIGENOUS PEOPLES				
GRI 411	GRI 411:1	Incidents of violations involving rights of indigenous peoples	SDR	No incidents were recorded in 2018
GRI 412: HUMAN RIGHTS ASSESSMENT				
GRI 412	GRI 412:1	Operations that have been subject to human rights reviews or impact assessments	SDR	64
GRI 412	GRI 412:2	Employee training on human rights policies or procedures	SDR	SDR 2014 P 26
GRI 412	GRI 412:3	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	SDR	64
GRI 413: LOCAL COMMUNITIES				
GRI 413	GRI 413:1	Operations with local community engagement, impact assessments and development programmes	SDR	27
GRI 413	GRI 413:2	Operations with significant actual and potential negative impacts on local communities	SDR	27
GRI 414: SUPPLIER SOCIAL ASSESSMENT				
GRI 414	GRI 414:1	New suppliers that were screened using social criteria	SDR	30-31
GRI 414	GRI 414:2	Negative social impacts in the supply chain and actions taken	SDR	30-31, 87
GRI 415: PUBLIC POLICY				
GRI 415	GRI 415:1	Political contributions	SDR	28
GRI 416: CUSTOMER HEALTH AND SAFETY				
GRI 416	GRI 416:1	Assessment of the health and safety impacts of product and service categories	SDR	30
GRI 416	GRI 416:2	Incidents of non-compliance concerning the health and safety impacts of products and services	SDR	30
GRI 417: MARKETING AND LABELLING				
GRI 417	GRI 417:1	Requirements for product and service information and labelling	SDR	N/A*
GRI 417	GRI 417:2	Incidents of non-compliance concerning product and service information and labelling	SDR	N/A*
GRI 417	GRI 417:3	Incidents of non-compliance concerning marketing communications	SDR	28-30
GRI 418: CUSTOMER PRIVACY				
GRI 418	GRI 418:1	Substantiated complaints concerning breaches of customer privacy and losses of customer data		No substantiated complains identified
GRI 419: SOCIOECONOMIC COMPLIANCE				
GRI 419	GRI 419:1	Non-compliance with laws and regulations in the social and economic area	SDR	28-29

* Our products are business to business and in general no such information is required.

Business in the Community, Ireland

EXTERNAL COMMENTARY BY BUSINESS IN THE COMMUNITY IRELAND

Business in the Community Ireland welcomes this 12th annual Sustainable Development Report by Smurfit Kappa Group plc. At the foundation of this report is a stated intention of the company towards accountability about company operations, strategy and its economic, social and environmental impact.

For a global company spanning 35 countries and 46,000 employees, the report represents a comprehensive review and a major data gathering and analysis exercise. This level of data aggregation demonstrates a significant integration of sustainability management across the company. Beyond the data and the best practice examples, the report provides clear information on how sustainability is managed and led, from the Board of Directors to the Group Executive Committee and across divisions, operations and individual sites. We also note the report is subject to external assurance, thus adding to the credibility of this disclosure.

WHAT IS THE PURPOSE OF A BUSINESS?

The report is unequivocal about the ambitions of the company: "Our goal is to be the most sustainable paper-based packaging solutions company globally." Such ambitious goal is mirrored in the report structure and in the specific sections where objectives, risks and opportunities are measured and evaluated.

It is evident that being best in class is not enough to be a leader in sustainability as explained by the Group CEO: "Society faces many challenges and increasingly looks to companies like ours to address pressing social and economic issues." It is therefore fundamental accountability exercises like this report reflect the ever increasing scope of societal expectations towards business and its response as part of an articulated strategy linked to the business goals and beyond corporate philanthropy. A global survey by Edelman states that 76% of employees believe it is critically important for CEOs to respond to challenging societal issues and take the lead on change.

The report presents a clear vision of the business and its evolving strategy. Sustainability, as a driver of circularity, innovation and inclusion is closely linked to business goals and its long-term vision.

REPORTING ON WHAT MATTERS

The materiality assessment presented in this report is comprehensive. We recommend that the materiality matrix is updated as the last reported analysis took place in 2016. We also suggest that the external stakeholder engagement includes industry peers and regulators. Beyond identification, concrete engagement plans should be put in place and its outcomes reported. The regional approach to materiality, prioritising

action in Europe and the Americas according to regional expectations is critical for localising the strategy. Additionally, the linkages set between the material themes and specific UN Sustainable Development Goals (SDGs) – at goal and target level – impacted will allow better alignment of the company vision with the Global Goals. This is in line with best practice, where only 53% of global multinationals align sustainability strategy to the SDGs at goal level and provide clear evidence of activities to address them.

The materiality and stakeholder matrix should mirror the SDGs to help understand how these are influencing the company strategy. The regionalisation of Smurfit Kappa sustainability initiatives should also connect with SDG priorities and action plans at the regional and national level in the countries of operation.

THE VALUE OF SUSTAINABILITY

We welcome the extensive focus of this report on demonstrating the implementation of the customer-centric approach to sustainability. The growing concern by consumers on the need to eliminate single use plastic provides a business opportunity for paper-based packaging solutions. Products such as AgroPaper™ or the growing awareness of chain of custody certification or the process of carbon foot-printing customers' packaging, demonstrate the growing need for this type of solutions and the competitive edge of Smurfit Kappa in delivering packaging that helps their clients meet stringent sustainability targets across their supply chain.

We believe that this focus is critical to illustrate how sustainability becomes fundamental for the company's business model, product innovation and customer engagement. It is noteworthy the focus on product innovation beyond the circularity of the packaging materials and into issues like tackling food waste. It will be interesting to read on future reports more specific customer feedback on how these packaging solutions meet and exceed their sustainability needs.

The Better Planet Packaging is a significant development on partnerships on key sustainability issues. We hope to see more specific KPIs on the implementation of this initiative and the expected impact it will have on the company. The focus on industry-specific and multi-stakeholder partnerships is well evidenced through alliances like CEPI, FSC/PEFC, Sedex or WBCSD/WEF, as well as partnering with smallholders, as presented in the case study on certified woodland in Spain.

The Sustainable Sourcing Programme is clearly presented in terms of the management process and supplier engagement practices. Further reporting will benefit from exposing more examples of the key social, economic and environmental issues that the programme manages in different countries and in the

sourcing of different products and services. The comprehensive focus on People is a clear indication of how economic success, innovation and quality are dependent on talent. There is a need to further develop a narrative connecting the management processes presented such as the MyVoice survey or the EveryOne Inclusion and Diversity programme with specific measures implemented and its impact.

In relation to activities in local communities, we recommend future reports address the link between these activities and strategic objectives.

THE IMPACT OF REPORTING

This report is a comprehensive assessment of management principles, processes and data across material aspects of company operations. There is a solid balance between presenting positive information or achievements and the disclosure of areas for further development or improvement (such as emissions from transport in the Americas or learning from the 2012 explosion in the Factice mill in France). In equal measure there is a good balance between the social, economic and environmental dimensions of sustainable development.

Risk identification in key areas is well presented. We look forward to seeing next year's report focusing on a new level of ambition as many objectives have been met.

The Vice President of Innovation and Development states, "As a leader in our field we are setting the agenda, but honestly, we don't yet know where this journey will end." At Business in the Community Ireland we believe that sustainability is an enabler of business success. Managing growing societal expectations, innovating for an inclusive, circular and low-carbon economy and understanding the dilemmas we face in this transition are essential. Partnerships across the supply chain will ensure sustainability remains integrated and mainstreamed.

The Sustainable Development Goals should drive new business opportunities and investor appeal. Transparency and accountability, evidenced in this report will enable companies like Smurfit Kappa to meet its bold ambitions and continue to lead in innovation, customer engagement and being a great place to work.

Tomás Sercovich,
CEO

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 91-95 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	403:1,4; 405:1-2; 406:1; 407:1; 408:1; 409:1; 410:1; 411:1; 412:1-3; 414: 1-2; 418:1
2 Businesses should make sure that they are not complicit in human rights abuses.	406:1; 407:1; 408:1; 409:1; 410:1; 411:1; 412:1
LABOUR	
3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;	402:1; 403:1,4
4 Businesses should uphold the elimination of all forms of forced and compulsory labour;	410:1
5 Businesses should uphold the effective abolition of child labour; and	409:1
6 Businesses should uphold the elimination of discrimination in respect of employment and occupation.	203:1; 401:2; 405:2; 407:1; 414:1-2
ENVIRONMENT	
7 Businesses are asked to support a precautionary approach to environmental challenges;	201:2; 305:4-5; 306:5
8 Businesses should undertake initiatives to promote greater environmental responsibility; and	301:1-2; 302:1-5; 303:1-5; 304:1-4; 305:1-7; 306:1-5; 307:1; 308:1-2; 417:1-2
9 Businesses should encourage the development and diffusion of environmentally friendly technologies.	301:2; 302:3-5; 303: 3-5; 305:4-5; 306:5
ANTI-CORRUPTION	
10 Businesses should work against corruption in all its forms, including extortion and bribery.	205:1-2; 413:2



Glossary

CLIMATE CHANGE, ENERGY AND AIR EMISSIONS

Bioeconomy	SK uses the European Commission definition for bioeconomy as production of renewable biological resources and the conversion of these resources and waste streams into value added products, such as food, feed, bio based products and bioenergy.
Bioenergy	Bioenergy is one of the many diverse resources available to help meet our demand for energy. It is classified as a form of renewable energy derived from biomass – organic material – that 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 wastes 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 wastes, forest residues, purpose-grown grasses, woody energy crops, algae, industrial wastes, sorted municipal solid waste, urban wood waste and food waste. Biomass is the only renewable energy source that can offer a viable supplement to petroleum-based liquid transportation fuels – such as gasoline, jet and diesel fuel – in the near to mid-term. It can also be used to produce valuable chemicals for manufacturing, as well as power to supply the grid.
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 manufacturing process and 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.
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 for the production of paper as well as emissions related to that are included in the figures for the Smurfit Kappa production facility.
Climate change	The United Nations Framework Convention on Climate Change (UNFCCC) defines it 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 for the production of paper. The calculation is made according to international guidelines from 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.
Energy efficiency	Energy efficiency, is the goal to reduce the amount of energy required to provide products and services.
Energy Union	The 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.
Dust	Particles coming from the combustion of fuels. Dust emissions are measured mainly by the mills. Where dust is not measured (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.
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, that trapping and holding 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) = 1 billion joules = 109 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).
NOx	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. NOx emissions are measured mainly by the mills. Where NOx is not measured (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.
SOx	Mix of sulphur oxides calculated as SO ₂ coming from combustion of fuels. Sulphur dioxide contributes to the acidification of soil and water. SOx emissions are measured mainly by the mills. Where SOx is not measured (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 = 1,015 joules.
TJ	Terajoule, a unit of energy that generally applies to fuel. 1 terajoule = 1,000 gigajoules = 1,012 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.

ORGANISATIONS

Asociación de Corrugadores del Caribe Centro y Sur América (ACCCSA)	Organization of corrugated cardboard manufacturers in the Latin American region, whose objective would be to exchange experiences, ideas and technological knowledge that will benefit and consolidate the entire Latin American corrugator sector.
CEPI	CEPI, the Confederation of European Paper Industries. It 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 CSR & sustainability performance across 150 sectors and 120 countries to reduce risk and drive 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 Industrialist	The European Round Table of Industrialists (ERT) is a forum bringing together around 50 Chief Executives and Chairmen of major multinational companies of European parentage covering a wide range of industrial and technological sectors, working to strengthen competitiveness in Europe. The group works at both national and European levels.
ESG. Environmental, Social and Governance	Environmental, social and corporate governance (ESG) criteria refer to three main factors investors consider with regards to a firm's ethical impact and sustainable practices.
Ethibel	The Ethibel Sustainability Index Excellence Europe lists 200 European companies that display the best performance in terms of corporate social responsibility.
Euronext Vigeo	The Euronext Vigeo indices comprise the highest-ranking listed companies as evaluated in terms of their performance in corporate social responsibility.
FAO	The Food and Agriculture Organization (FAO) is specialized agency of the United Nations that leads international efforts to defeat hunger. The goal is to achieve food security for all and make sure that people have regular access to enough high-quality food to lead active, healthy lives. With over 194 member states, FAO works in over 130 countries worldwide.

Glossary continued

FEFCO. The European Federation of Corrugated Board Manufacturers	FEFCO is a non-profit organisation representing the interests of the industry across Europe and addressing a wide range of issues, from technical topics to economical questions. The role of the Federation is to investigate economic, financial, technical and marketing issues of interest to the corrugated packaging industry, to analyse all factors which may influence the industry and to promote and develop its image.
FTSE4Good	The FTSE4Good Index series is designed to measure the performance of companies demonstrating strong environmental, social and governance practices.
Global Reporting initiative (GRI)	GRI is an independent international organisation for sustainability reporting, since 1997. 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. This enables real action to create social, environmental and economic benefits for everyone. 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	International Labour Organization (ILO) the only tripartite United Nations agency, since 1919 the ILO brings 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.
Irish Business and Employers Confederation (IBEC)	IBEC is Ireland's largest lobby group representing Irish business both domestically and internationally. Its membership is home grown, multinational, big and small, spanning every sector of the economy.
OECD	Organisation for Economic Co-operation and Development (OECD), provides a forum in which governments can work together to share experiences and find solutions to common problems, work with governments 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, establishes international standards in a wide range of aspects, from agriculture and taxes to the safety of chemical products.
SDGs	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 actions among governments, business and civil society to end poverty and create a life of dignity and opportunity for all, within the boundaries 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 and participatory reporting process. The SSI Review offers supply chain decision-makers – including procurement agents, investment advisors, CEOs, policy-makers, sustainability initiatives and NGOs – with high-level data and analysis.
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 a representation 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 aimed at ending poverty in all its forms. The UN 2030 Agenda envisages 'a world of universal respect for human rights and human dignity, the rule of law, justice, equality and non-discrimination'. It is grounded in the Universal Declaration on Human Rights and international human rights treaties and emphasises the responsibilities of all states to respect, protect and promote human rights. There is a strong emphasis on the empowerment of women and of vulnerable groups such as children, young people, persons with disabilities, older persons, refugees, internally displaced persons and migrants. The Agenda's 17 Sustainable Development Goals (SDG), and their 169 targets, aim at eradicating poverty in all forms and 'seek to realise the human rights of all and achieve gender equality'.
UN Global Compact's CEO Water Mandate	The CEO Water Mandate is a UN Global Compact initiative that mobilises business leaders on 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 Organization 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.

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 product may carry a label. The label on wood products guarantees that consumers can trust the sources. Actual certification is carried out by independent certification organisations that are 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 including each stage of processing, transformation, manufacturing and distribution where progress to the next stage of the supply chain involves a change of ownership, in order 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 Forestry Stewardship Council (FSC) is an independent, non-governmental organisation established to promote the responsible management of the world's forests through independent third-party certification.
FSSC 22000	These standards specify requirements for a food safety management system where an organisation in the food chain needs to demonstrate its ability to control food safety hazards in order to ensure that food is safe at the time of human consumption.
ISO 9001	Scheme certified by independent third party that ensures that the operation certified applies internationally recognised standards and procedures of quality management.
ISO 14001	Scheme certified by independent third party that ensures that the operation certified applies internationally recognised standards and procedures of environmental management.
ISO 50001. Energy Management Systems	Scheme certified by independent third party that 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: 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 independent third party that ensures that the operation certified applies internationally recognised standards and procedures of occupational health and safety management.
PEFC	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 Chain of Custody according to the SFI standard through independent third-party certification.
EU Timber Regulation	The EU Timber Regulation is a regulation aims to reduce illegal logging by ensuring that no illegal timber or timber products can be sold in the EU, applies to wood and wood products being placed for the first time on the EU market.

WATER

AOX	Absorbable Organic Halogens: amount of organic compounds containing chlorine and other halogens. AOX 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 (COD) 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 that can be oxidised by a strong oxidising agent.

Glossary continued

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 from water availability and quantity, covering multiple aspects specific to each geographical locations.
PRODUCTS AND RAW MATERIALS	
Containerboard	Papers and boards mainly used in the manufacture of corrugated board. They are made from virgin or recovered fibres. Included are 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.
Testliner	Paper manufactured from recycled fibres.
Inorganic raw materials	Raw material used for manufacturing our products that are not organic such as: fillers, sodium hydroxide, sodium sulphate and calcium oxide.
Other organic raw materials	Raw materials used for manufacturing our 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 repulping process in which recovered paper is returned into pulp, non-fibrous materials are being 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 the purpose of recycling which is 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 ways to use raw materials or replacing a more harmful raw material with a less harmful one and 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.
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.
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 their 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.
Total Recordable Incident Rate	Refers to the total Number of Recordable injury Cases per 100,000 hours worked by Smurfit Kappa employees. Number of recordable injuries (lost time accident + restricted workday case + medical treatment case) x 100,000/ total hours worked by all Smurfit Kappa employees during the period covered.

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 and 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.
WASTES	
Wastes	Wastes are classified as non-hazardous wastes or hazardous wastes and are reported separately. Wood wastes and corrugated board shavings are excluded. All amounts of wastes are reported in mass as disposed.
Total non-hazardous wastes	Sum of all non-hazardous waste whatever its destination. Each category of non-hazardous wastes is defined and reported.
Non-hazardous wastes landfill	Part of the non-hazardous wastes that are disposed of in either internal or external landfill in accordance with national legislation.
Non-hazardous wastes recovery	Part of non-hazardous wastes that are reused or recycled or composted or 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 wastes other	Part of non-hazardous wastes that does not belong to the two previous categories. This includes wastes incinerated without energy recovery or wastes for which the final disposal is uncertain.
Hazardous wastes	A hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment. Residues of oils and other hazardous wastes (building wastes containing asbestos, ink residues, etc.).

Assurance Report of the Independent Auditor

To: the readers of the Sustainable Development Report 2018 of Smurfit Kappa Group plc

OUR CONCLUSION

We have reviewed the Sustainable Development Report 2018 for the year ended 31 December 2018 (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 reporting criteria as included in the section 'reporting criteria'.

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. 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 'About this Report' in the Report.

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'.

Our responsibilities under this standard are further described in the section 'Our responsibilities for the review of the 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 about the consolidated information in the Report.

REPORTING CRITERIA

The Report needs to be read and understood together with the reporting criteria. Smurfit Kappa is solely responsible for selecting and applying these reporting criteria, taking into account applicable law and regulations related to reporting.

The reporting criteria used for the preparation of the Report are the Sustainability Reporting Standards of the Global Reporting Initiative (GRI)

and the applied supplemental reporting criteria as disclosed on pages 91-95 of the Report.

LIMITATIONS TO THE SCOPE OF OUR REVIEW

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 reporting criteria as included in the section 'reporting criteria', including the identification of stakeholders and the definition of material matters. The choices made by the Board of Directors regarding the scope of the Report and the reporting policy are summarized on page 28 of Sustainable Development Report 2018.

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

Procedures performed to obtain a limited level of assurance are aimed at determining the plausibility of information and vary in nature and timing from, and are less in extent, than for a reasonable assurance engagement. The level of assurance obtained in review engagements with a limited level of assurance is therefore substantially less than the assurance obtained in audit engagements.

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' (NVKS, 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 included amongst 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 company;
- Evaluating the appropriateness of the reporting criteria used, their consistent application and related disclosures in the Report. This includes the evaluation of the results of the stakeholders' dialogue and the reasonableness of estimates made by the management board;
- Obtaining an understanding of the reporting processes for the Report, including obtaining a general understanding of internal control relevant to our review;
- Identifying areas of the Report with a higher risk of misleading or unbalanced information or material misstatements, whether due to fraud or error. Designing and performing further assurance procedures aimed at determining the plausibility of the Report responsive to this risk analysis. These procedures included among others:
 - Interviewing management and relevant staff at corporate and local level responsible for the sustainability strategy, policy and results;
 - Interviewing relevant staff responsible for providing the information for, carrying out internal control procedures on, and consolidating the data in the Report;
 - Reviewing procedures at corporate (consolidated) level and at site level;
 - Determining the nature and extent of the review procedures for the group components and locations. For this, the nature, extent and risk profile of these components are decisive. Based thereon we selected the components and locations to visit. The visits to Mold, Mortagne, Wrexen, Herzberger, Pirapetinga and Uberaba in the United Kingdom, France, Germany and Brazil are aimed at, on a local level, validating source data and evaluating the design and implementation of internal controls and validation procedures;
 - Obtaining assurance information that the Report reconciles with underlying records of the company;
 - Reviewing, on a limited test basis, relevant internal and external documentation; and
 - Performing an analytical review of the data and trends.
- Evaluating the presentation, structure and content of the Report; and
- To consider whether the Report as a whole, including the disclosures, reflects the purpose of the reporting criteria used.

We communicate with the Board of Directors regarding, among other matters, the planned scope and timing of the review and significant findings that we identify during our review.

Amstelveen, 16 May 2019
KPMG Accountants N.V.
M.G. Schönhage RA

Confirmation of rights to use the trademarks:



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