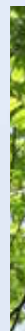


Sappi Fine Paper Europe Sustainability Report 2013



sappi

The art of adding value

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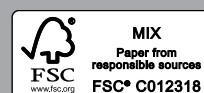
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We are part of the communities in which we work



Ralph Boëtter
Chief executive officer
Sappi Limited

“The past year for Sappi has been one of significant change and restructuring as we position the company for stronger growth and profitability.

In Europe, shortly after the reporting period, we completed the conversion of PM2 at our Alfeld Mill to one-sided coated speciality paper to take advantage of this high growth market. The negative impact of the construction of this project on production was exacerbated by trading conditions in Europe, which were much worse than we expected.

We are, however, optimistic that the actions we continue to take in Europe to reposition the business, along with improved trading conditions, will result in an improved performance for 2014.

The restructuring and repositioning efforts of Sappi Europe have resulted in innovative products and changes to practices, including strong moves towards being the lowest-cost producer in the region. This positions us well for the future.

While our strategy has evolved over the years, we have always believed in our group values (excellence, integrity, respect and resourcefulness), and that by making sustainability a priority we will be successful if we provide customers with the best services and products.

Sappi Europe's approach to sustainability is based on a holistic view of Planet, People and Prosperity (the 3Ps). These values and commitments underpin everything we do, from our business decisions and processes to our dealings with stakeholders and customers.

Planet: contributing to a world of biodiversity, renewable energy and environmental care

People: adding to the wellbeing, safety and health of employees and communities

Prosperity: aiming at long-term profitability and customer satisfaction through innovation and ethical conduct

Under these over-arching themes we have placed our Charter Commitments (pages 8-15). These commitments provide clear guidance to all our staff, suppliers and shareholders on how the company will behave and how we believe it must operate. We see ourselves as a part of the communities in which we work and, while we strive to be a successful and profitable company, we must achieve this aim in a sustainable way.

Sustainability report

This report spells out where Sappi has come from, where it is headed, and how it believes it will get there. Sappi Fine Paper Europe has been publicly reporting progress on sustainability initiatives since 2008 as part of a global sustainability report issued annually by Sappi Limited after the financial year-end. Our financial year starts on 1 October and ends on 30 September of the following year.

Since 2011, each regional division has issued its own sustainability report, with consolidated global sustainability performance included in the annual report to shareholders. Sappi Limited will also continue to publish a separate online report in conformance with the Global Reporting Initiative framework and disclosing compliance with the UN Global Compact, to which we are a signatory.

This regional reporting structure allows a deeper regional focus that reflects local markets and aspects, and covers the financial year 2013 (1 October 2012 to 30 September 2013). Emission figures are based on our mills in Europe unless specified otherwise. All production and non-production activities on our mill premises are included. People and prosperity metrics are reported for the full region, including central facilities and sales offices.

Our European presence

Sappi Fine Paper Europe (SFPE) is the leading European producer of coated fine paper used in premium magazines, catalogues, books and high-end print advertising. Headquartered in Brussels, Belgium, SFPE is recognised for innovation and quality. Its graphic paper brands include Magno™, Quatro™, Royal™, Galerie™, GalerieArt™ and Jaz™ ranges. Algro®, Fusion®, Leine® and Parade® are the brands for speciality labelling, topline, packaging papers and boards. Sappi papers are produced in mills with ISO 9001 and ISO 14001 certification and EMAS registration for all our mills in the EU. SFPE's mills hold chain-of-custody certification under the Forest Stewardship Council (FSC®) and/or the Programme for the Endorsement of Forest Certification (PEFC™) schemes.

SFPE is a division of Sappi Limited (JSE), a global company headquartered in Johannesburg, South Africa, with 13,600 employees and manufacturing operations in seven countries on three continents, sales offices in 50 countries, and customers in more than 100 countries around the world.

Learn more about Sappi at www.sappi.com

Paper: Paper capacity (tonnes per year)
Pulp: Pulp capacity (tonnes per year)

Nijmegen, The Netherlands
Paper: 240,000

Brussels, Head Office

Lanaken, Belgium
Paper: 500,000
Pulp: 180,000

Maastricht, The Netherlands
Paper: 280,000

Alfeld, Germany
Paper: 300,000
Pulp: 120,000

Stockstadt, Germany
Paper: 440,000
Pulp: 160,000

Ehingen, Germany
Paper: 260,000
Pulp: 140,000

Kirkniemi, Finland
Paper: 730,000
Pulp: 330,000

Gratkorn, Austria
Paper: 950,000
Pulp: 250,000

5,600 
employees in Europe
(13,600 worldwide)

3.8 million
tonnes of paper produced
per year in Europe
(5.9 million worldwide)

1.2 million
tonnes of paper pulp
produced per year in Europe
(2.4 million worldwide)

 **1.3 million**
tonnes of specialised
cellulose produced
per year worldwide



2013: a year of innovation

Who we are

The past year might have presented its difficulties but, as Sappi Europe CEO *Berry Wiersum* explains, addressing those challenges has allowed the company to place itself on a more sustainable footing

The past 12 months have been a tough time for many European businesses and Sappi has had to weather its share of the continent's problems. In spite of this, we have performed well in many of our markets. Our mills have been getting busier since the summer as we have strengthened our position in export markets and regained our traditional market share in Europe.

However, turbulent times make it even clearer that we must adapt and change in a dynamic environment, with the continuing contraction of the market for graphic papers on the one hand and the growth in specialities on the other. Innovation is a word that will be used throughout this report, as it describes so much of what we now do.

Innovation

In the past, innovation at Sappi was dictated by our existing capabilities. However, we are now living in more demanding times and must think in broader terms. Project Oscar (see page 32) shows an example of this. Through this project Sappi will start up new businesses. The management team has been involved in backing new ideas and providing funding and

support. We will bring these new start-ups to market as quickly as possible, embracing the 'lean start-up' philosophy, where businesses go to market to receive feedback from customers and then continually adapt and improve their offering.

Constant improvement

The Sappi Performance Engine (SPE) (see pages 37-39) is also a fundamental part of a strategy focused on innovation. It enables us to pursue a programme of constant improvement, ensuring we bring productivity and efficiency to the way we conduct our daily business. SPE empowers staff and managers to do their best at all times, succeed and drive the company forward.

Our mills

We've invested heavily in several mills. At Alfeld, we have upgraded one of our paper machines to give us more flexibility and capability to manufacture speciality papers (see page 32). Meanwhile, work on a new power plant starts at Kirkniemi in 2014, giving the mill the potential to run off 100 per cent biomass. And Gratkorn will benefit from a general upgrade from 2015. Sadly, though, the realities of the market have obliged us to take the difficult

decision to start consultations on the future of our Nijmegen Mill and the relocation of its current products to other Sappi mills.

Market leader

Sappi is determined to be the European leader in fine coated paper, for graphics and other growing speciality markets. We will continue to concentrate on being innovative so we can make products and services that meet the very high quality demands of specialities and the cost requirements of graphics.

A deep understanding of the markets and the specific needs of our customers is key. With this knowhow, we can deliver intelligent services, products and solutions at a cost customers want to pay. We also want to achieve acceptable financial results.

We believe we are easy to do business with and have a strong commitment to our values of integrity, courage, collaboration and speed, each of which contributes to our overall strategic aim. Together with a strong focus on our sustainability programme based on a commitment to Prosperity, People and Planet, we will meet the requirements of our stakeholders around the world.

PLANET

Saving our energy for what matters

By treading more lightly on the planet with cleaner, more efficient manufacturing and waste management processes, we can produce more with less – which has obvious economic benefits. This approach involves reducing the energy intensity of our business and reducing the associated greenhouse gas emissions across the full supply chain.

It also necessitates using less water, improving effluent water quality and promoting sustainable forestry through internationally accredited, independent environmental management and forest certification systems.

Reduction of specific water use

We are fortunate in that our mills have hardly experienced disruptions

in water supply. According to the Global Water Tool of the World Business Council of Sustainable Development, the average water stress index is abundant at all but two of our mill locations, Maastricht and Lanaken, where the index is considered to be at stress level due to the relatively high population living in the area. In our experience, however, water has always been abundant and we do not foresee a water shortage risk. We also do not expect our impact to significantly change at any of our locations due to our water use and discharge.

Our water use does have an impact on our energy use, as it is heated up as part of the process, and the mills lose energy through their water discharge. In 2013 we were not able to meet our target for specific water use. In fact we have increased

the specific use by 1.3 per cent. We do, however, envisage reducing our use by 5 per cent by 2017.

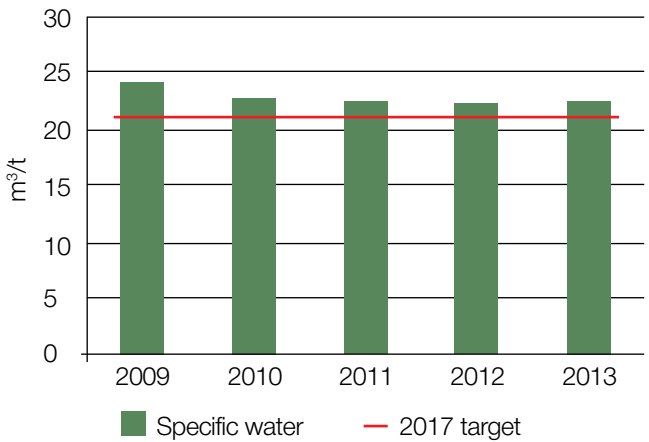
Reduction of specific CO₂ use

Our 2017 target is the reduction of specific direct fossil CO₂ emissions (ie, kg of CO₂ per tonne of sold pulp and saleable paper), including purchased power emissions (calculated at 400g/kWh), by 5 per cent.

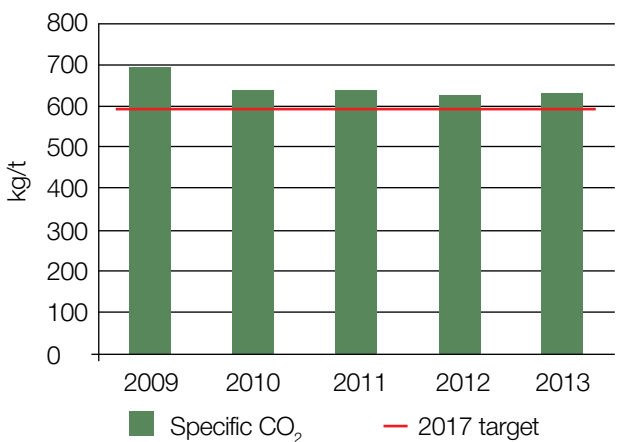
The CO₂ figures shown in the graph are the sum of specific direct CO₂ emissions and the indirect CO₂ emissions from the external electricity supply. It is calculated with the factor of 400g/kWh, which is close to the European average and is also the factor used by the EU Flower criteria for copying and graphic paper. The disadvantage of this target is that the capacity of the integrated chemical pulp production is limited, as is the availability of our most important biofuel black liquor, for which generation is proportional to the pulp production.

When the paper production is increased compared with the integrated chemical pulp production, the share of fossil fuels is increased and, in line with it, the fossil CO₂ emissions. This is the case for Alfeld, Ehingen, Gratkorn and Stockstadt mills. For efficiency reasons it is of course almost always sensible to maximise production of our machines. As a rule, the higher the machine use the lower the specific energy needed. Compared with 2012, although we were able to reduce our specific energy use by 1.6 per cent,

Specific water use



Specific CO₂ use



we were unable to translate this into a reduction of specific CO₂ emissions. These increased by 0.8 per cent. The lower production volumes have unfortunately more than compensated for all our continuous improvement efforts as measured by this parameter.

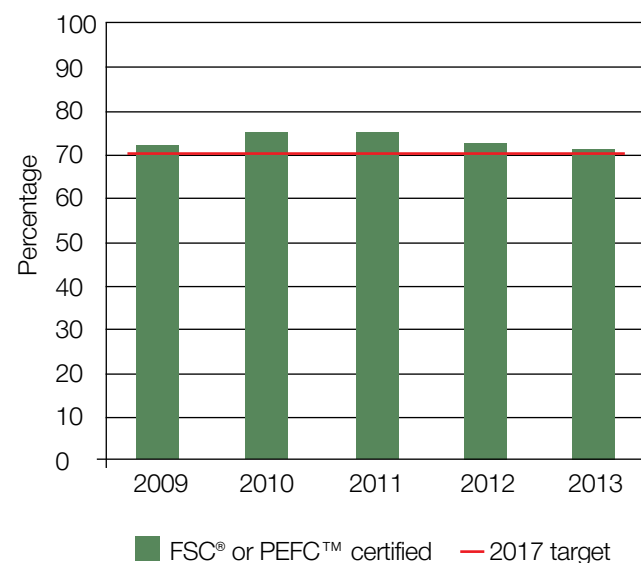
Certified fibre

Our 2017 target for certified fibres overall is greater than 70 per cent. We have achieved this high figure since 2009. Increasing the certified share further will be a challenge as we must also take operational targets into account, such as the preference to source locally.

The certification of the chain of custody has improved significantly over the past years with most of our suppliers following this route. All of our pulp suppliers are certified, in most cases in accordance with both Forest Stewardship Council (FSC®) and Programme for the Endorsement of Forest Certification (PEFC™) schemes. Some of our smaller wood suppliers, however, are still not certified.

Some wood material loses its certification in the chain as a few intermediary traders do not hold the same certification as the traded material. Any non-certified material entering our products is subject to strict risk assessment processes, which meet the FSC® Controlled Wood requirements and those of the PEFC™ Due Diligence System.

Certified fibre share



A note on reporting

Compared with the figures in our 2011 and 2012 Sustainability Reports, this time we are reporting specific figures on saleable paper production plus pulp sold. The 2012 base unit was saleable paper production plus pulp manufactured.

The changed reporting base has significant consequences, which should be considered when interpreting the results and comparing last year's results. Since the sold pulp volumes are reasonably small, about 1.1 per cent of the total in 2013, the emissions are distributed over a much smaller production volume so that the absolute specific numbers are consequently higher than in the previous report. This change is done in line with the reporting practice in Sappi's South African and North American regions.

Jens Kriete
Environmental
Manager



Jacob Hartstra
Environmental
Marketing Officer

Sustainable forests and plantations are Sappi's main contribution to the future of our planet

Sustainability is a goal we strive towards. We can learn from sustainable forestry, which could be a raw model for many other processes and approaches.

More than 70 per cent of the fibre we purchase is certified by the Forest Stewardship Council (FSC®) or by the Programme for the Endorsement of Forest Certification (PEFC™), so we know that sustainable forestry practices were followed.

We have set ourselves a very strict wood procurement policy. Any non-certified material is risk-assessed according to internationally recognised standards such as FSC® Controlled Wood and PEFC™ Due Diligence System.

For all other raw materials, technical goods and services that we source and specify we work according to our Code of Ethics and also encourage our suppliers and contractors to follow these principles.

In the past year we have been working at all mills on the efficiency of our pulp and paper production

“Consumers like to buy products from well managed forests”

processes, logistics, sales and all supporting processes. However, lower production volumes as a result of market demand were detrimental to our efficiency targets and also our CO₂ emission and water use targets.

One of the major programmes last year was Project Leopard, the rebuild of Paper Machine 2 at Alfeld (see page 32). It was converted from a graphic paper machine into the biggest manufacturing line for flexible packaging in the world.

We need to grow more trees than we harvest to remain sustainable. Not all trees survive until the desired harvesting age because of sickness, lightning, fire or wildlife damage. However, the total forest area in Europe is growing.

The difference between waste and raw material is not always clear. We continue to use dried sludge from Maastricht Mill as animal bedding – and the cows continue to like it (see page 25)! Another use for dried sludge is raw material for increasing the insulating properties of bricks. Our boiler ashes are partly used in

cement mills. Some are used as fertiliser, closing the nutrient cycle.

Pulp and paper making is an energy-intensive process. There have been many decades of research to improve its efficiency, but the initial principle of preparing an aqueous suspension in which a dry content of less than 1 per cent is dewatered and dried has not changed.

Energy use has always been crucial for us. We have worked hard to gain the ISO 50001 certification for energy management at all our mills except Lanaken and Maastricht, which should be certified in 2014.

Our energy use in Europe is significantly lower than in the other Sappi regions, South Africa and North America. But this does not give us a competitive advantage in the global market as energy costs are significantly higher in Europe.

The reel brands from our Kirkniemi Mill and most of our sheet brands are Nordic Ecolabel approved. We added this label 10 years ago as a response to customer demand in Scandinavian

countries. We are now also getting the EU Ecolabel for most of our reel and sheet grades that we have added, again as a response to customer demand. The approach of both labels is similar. Energy, emissions, fibre and non-fibrous raw materials are all taken into account. The aim of these labels is to provide an incentive for the best performing papers in a particular segment.

Our forests, the source of our raw materials, are a haven for plant and animal life. They are the lungs of our atmosphere. They produce timber and fibre for construction materials, furniture, printing and writing paper, paper packaging, cellulose based textiles (viscose), food additives and advanced polymers and speciality chemicals. Other seasonal forest products are venison, berries, mushrooms and honey. Forests are a place for tourism and recreation, where we can experience our emotional relationship with nature.

All these benefits can be sustained by good management. The fuel of this process is income to the forest owners so that they can finance good practice. The materials and products that carry the FSC® or PEFC™ label provide businesses and consumers with a powerful tool to influence how forests worldwide are managed. The continuously growing demand for certified products shows that consumers prefer products from well managed forests. Consumers can contribute to the wellbeing of our forest resources by buying certified.

Our European mills and sales organisations have FSC® and PEFC™ accreditation. Sappi Europe also holds an FSC® Controlled Wood group certification. By buying Sappi products our customers contribute to good forest management.

Our speciality papers are increasingly used for sustainable packaging. Together with the renewable and biodegradable film NatureFlex (see page 34) our Algro design is an advanced packaging solution, fully renewable and compostable so that the nutrient cycle is closed.

Healthy business, healthy progress

By generating prosperity, we can continue to attract investors, take advantage of growth opportunities and invest more in our processes, people and mills. This ensures that the business is centred on the customer, and keeps us focused on ongoing product, process and service innovation. Investing in research and development ensures we maintain a competitive global advantage.

Our 2017 target is to achieve a return on net operating assets of 10 per cent.

Focus on innovation

A challenging fine paper market has kept us on our toes, forcing us to find new ways to keep our business fresh. One initiative that is helping us develop ideas is Project Oscar, an ideas incubator for ambitious colleagues that allows them to start a company and bring a brand new product to a sometimes previously unfamiliar market (see page 32).

Other large-scale projects in 2013 include Project Leopard at Alfeld Mill, through which we have changed the use of one of the mill's

paper machines from graphic fine paper grades to speciality substrates, part of the plan to make Sappi the market leader in speciality papers (see page 32).

Finally, the collaboration with SCA Hygiene Products in a joint pulp-purchasing venture demonstrates our willingness to work with partner companies to create a sustainable business model (see page 32).

Speciality products

The variety of speciality products and the service offered make Sappi very competitive in this area. Sappi launched Algro Nature, a coated home-compostable paper for flexible packaging (see page 34). In addition, we are further penetrating the flexpack, release liner, premium cartonboard and white topline markets.

Sappi launched Jaz silk in 2011, meeting our target to bring a digital paper to market. The technology was developed in cooperation with HP for high-speed inkjet printing. Since its introduction, we have successfully launched two new versions, Jaz book and Jaz gloss (see page 34).



Marco Eikelenboom
Marketing and Sales Director

Glen Pearce
Chief Financial and IT Officer

Ivo Maassen
Market Intelligence Manager

For a business to prosper, sometimes you have to discard past practices. Three of Sappi's marketing and finance executives put their heads together to explain

"We have to impress by results"

There has been a noticeable increase in the speed of change in the paper market following the financial crisis of 2008. Historical trends have tended to be less relevant and market uncertainty is more prevalent. The challenges we face are numerous and therefore we must adapt and re-adapt. What worked in the past won't work automatically in the future.

In terms of difficult decisions in the past year, reducing headcount was by far the hardest to take and implement.

For Sappi's long-term prosperity we require an effective and strong leadership focused on delivering targets that are clear, measurable and realistic. We need a culture of continuous improvement, where we continually strive to improve ourselves, our team, our department and our region. Finally, we need an ethical and moral environment that is built on respect for ourselves, our colleagues, suppliers and customers.

We look for honesty and trust from suppliers and work well with those that are proactive in their approach.

We collaborate closely with them and the context for this is set by the needs of our customers.

To make sure Sappi is viewed as a forward-thinking organisation we try to follow the inside-out approach: we start internally, walk the talk and impress by results. Customers will notice our new attitude as well as the improvements.

Sappi is committed to a policy of continuous improvement, which places responsibility on us all to keep getting better. Financially, an improvement in performance always produces an improvement in profitability. We will constantly be faced with differing perceptions of the value we create, so we will continuously have to improve as customers' tastes and requirements change. The Sappi Performance Engine (see pages 37-39) supports a structure of aligning targets across the company that will strive for continuous improvement.

One of our most exciting innovations is Project Oscar (see page 32), which has released a team of young people

from their everyday jobs to focus on creating new businesses, not necessarily related to paper. It has tremendous potential and it is still in its early days. The ideas from this are pitched *Dragons' Den*-style to the European management who have to give the green light there and then. Some ideas have been approved and will be launched in the near future. Everyone at Sappi believes this project has the potential to generate significant learning and innovation.

A growing number of innovations are also coming from our specialities business. The recent rebuild of Paper Machine 2 at Alfeld Mill allows us to increase our share in the growing market of coated speciality papers, particularly for the food packaging sector. An increasing awareness of the necessity to reduce food waste offers huge opportunities for sustainable packaging, but also challenges the industry to comply with new and stricter packaging regulations worldwide. Our experts in this field at Alfeld have already won an award for a new packaging grade that meets these criteria. We have been nominated for the award again for another innovation this year.

The long-term survival of a business is dependent on the environment it creates and operates in. A positive relationship with the environment opens up opportunities and creates long-term relationships. Also we have to take care of the environment, otherwise it will harm our business success. We need the right balance between people, planet and prosperity. You can't be successful if you 'forget' about one.

“Diversity contributes to innovative thinking”



Rainer Neumann
HR Director
Sappi Europe

How we aim to make Sappi an exemplary place to work

The most important initiative affecting Sappi employees in 2013 is without doubt the Sappi Performance Engine, which has made our organisation focus more holistically and consistently on continuous improvement (see page 37).

One reason that Sappi is a good place to work is that we work hard to bolster our employees' personal and professional development. For instance, the Sappi Employability Strategy aims to create 'sustainable employment', where better trained employees are better equipped to deal with a changing environment.

This means people are less likely to lose their jobs and, if they are unfortunate enough to do so, are more likely to find new ones. Under this strategy, both managers and staff take responsibility, leading to a stronger company culture. At the

	Term-limited	Involuntary/dismissal	Voluntary/resigned	Pension	Total
Average departed in 2013 (weighted)	0.5%	1.9%	2.3%	0.8%	5.4%

same time, employees must have the willingness and the capacity in the form of knowledge and skills to increase their employability. Willingness drives capacity and leads to increased engagement in learning and training opportunities, mobility across jobs, and functional mobility.

Examples of the Employability Strategy in practice are 'healthy' shift systems; safety, well-being and re-integration processes; and engagement with stakeholders such as management, works councils and medical staff to reinforce what works well and to define what is needed make processes more effective.

We make sure we've got the right person for the job by evaluating candidates carefully against the job requirements. Once hired, performance management is key. All staff have targets and regular development discussions with their managers. When gaps in skills or abilities are identified, appropriate training and development plans are put in place.

Our biggest challenge in the paper industry this year is operating in a

declining market where we battle to generate sustainable margins through continuous improvement and cost adjustments. We have clearly defined action plans in place which have been shared and incorporated into our 2014 plans through the Hoshin-Kanri deployment process (see pages 37-39 for further explanation).

We prepared for this rapidly changing work environment by running in-house courses on change management. The programmes were aimed at managers and focused on supporting employees dealing with change. Other training topics included Sappi leadership culture, SPE culture and change management, and self-assessment SPE leadership capability. Managers have learned to adjust their leadership style to the development level of the task an employee is performing. We work on the understanding that the 'line manager can be a coach', encouraging staff and improving their skills.

We manage the development of current and future leaders through the Leadership Talent Strategy.

This strategy builds a healthy leadership pipeline, involves succession planning, risk and talent analysis, 360 degree feedbacks and leadership development programmes. Once leaders are identified they have their skills further developed at the Sappi Leadership Academy – the eighth annual academy began in April 2013.

We employ a diverse workforce and believe diversity contributes to innovative thinking and our ability to serve diverse markets. In the past few years, two-thirds of management appointments were from a different function, location or nationality. Sappi has also intensified its efforts to recruit, retain and promote women. This will remain a challenge because women are under-represented in engineering, but we will continuously strive to address this shortage.

We work hard with employees to ensure their interests converge with those of the business. This in turn will lead to a high performance culture, which is rewarding financially and on a personal level.

Voluntary staff turnover at Sappi has been consistently under 2 per cent for the past few years with the exception of 2013.

All of our staff are included in a variable bonus programme which pays out if targets are met. In addition we have a Sales Incentive Plan in place for our sales staff, as well as a Management Incentive for senior staff. Finally, Sappi aims to reward staff fairly and equitably in relation to job level, experience and employment market.

Company pension schemes are offered in line with market practices taking into consideration state-provided pension benefits. Incentive awards for the management are available through the Sappi Limited Share Incentive Scheme and the Sappi Limited Performance Share Trust.

PEOPLE

Committed to our people

By creating a safe, healthy workplace for our people in which diversity is encouraged and valued, and people are provided with ongoing development opportunities, we enhance productivity and our ability to service global markets. Active corporate citizenship programmes relevant to the needs of the communities where we operate ensure that we promote socioeconomic development in these communities.

Each employee should receive 30 hours of training a year, which we achieved in 2012 and 2013. Our people development initiatives, which include an increased focus on on-the-job development, have helped us to ensure that our employees can work more effectively and confidently and are able to take up different roles.

A safe and healthy workforce Sappi's safety approach is based on five fundamental principles:

- A zero-injury target
- Integrated health and safety planning and management
- Training at every organisational level
- Participative information and control structures
- Adherence to international best practice and safety standards

Other initiatives include an annual Global Safety Awareness Day at all our sites, during which we offer medical check-ups and programmes to help staff to stay in excellent condition both mentally and physically.

Safety record

Our 2013 target was to reduce the Lost Time Injury Frequency Rate (LTIFR) to 1.2 (this includes central units) and to report occupational injuries better and more comprehensively.

We achieved an overall LTIFR of 0.98 in 2013, with Alfeld Mill achieving 0.32, just behind Stockstadt Mill with an LTIFR of 0.33. We have been continuously successful in lowering our LTIFR each year. We will of course continue our intensive safety efforts for the entire European operation and provide a safe working place for all our staff.

In addition, Stockstadt Mill has won gold for its excellent safety record after posting a million hours of work without an incident (see page 40 for more on this).

Making wood work harder

Why waste wood by burning it directly to make energy, when you can make renewable energy from wood-based products like paper?

Forests: where the journey begins

From our perspective there are two choices – and only the second of these is viable: we can either burn wood directly to make energy; or we can take advantage of wood's many versatile and renewable properties to first create wood products, pulp and paper, and recycled paper, all of which can then be used for renewable energy after their material use.

A more sensible path

By extending the lifecycle of wood before it is ultimately used for energy, we can add value to the economy, create and retain jobs, and in effect use our raw materials more efficiently, while retaining the energetic value of wood biomass.

7x the jobs

The pulp and paper industry creates seven jobs for every one created by the energy industry (1.6m v 239,000)

5x the value

Converting wood to energy is worth €20bn. Using the same amount of wood as a raw material first is worth €97bn

Action

Sappi is one of 50 European organisations represented by the Bio-based Industries Consortium from the technology, industry, agriculture and forestry sectors. Together, they are committed to investing in collaborative research, development and demonstration of bio-based technologies. Driving the issue on Sappi's behalf will be Math Quaedvlieg, Director Manufacturing, Math Jennekens, Director Research and Development, and Arnulf Kai Mahler, Project Manager Gratkorn. The views of the European Parliament and a decision by the European Council should be announced in the coming months, with a fully operational joint undertaking by the middle of 2014.

Campaigning

To raise the profile of the issue, Sappi has joined the Bio-based Industries Initiative, a public-private partnership between the European Commission and the Bio-based Industries Consortium. The objective is to push for the use of renewable resources and innovative technologies for greener everyday products. As part of the partnership, the European Commission will invest €1 billion; the private partners will invest €2.8 billion. biconsortium.eu

A waste of good wood

Although it seems logical to extend the lifecycle of wood, the energy industry does not necessarily see it that way. To date, biofuel has tended to come from biomass feedstocks with no nutritional value, such as agricultural waste or fast-growing trees and grasses grown on otherwise unproductive land. **Unfortunately, reserves of good quality wood are now being dipped into to produce energy, with government subsidies supporting this practice.**

Case in point: Austria

Over the past 10 years, the energetic use of wood has doubled, diminishing the wood supply, resulting in a need to import. This has had a negative impact on the 300,000 people employed in the Austrian wood sector. The country's paper industry is also suffering. Questionable subsidies to support biomass are putting Austria's traditionally strong wood and paper industry in jeopardy, further threatening jobs in the sector. Wood import costs have to be added to the costs associated with maintaining the highest environmental and safety standards, in an increasingly global competitive environment.

SOURCE: *How to make the best use of our natural resources*, Confederation of European Paper Industries, November 2012

The sustainable paper trail: from forest to consumer

Chapter

Responsible use of resources

At Sappi, we hold strong views on the use of wood from certified sources. Here we outline how we put these principles into practice

For the paper industry to be sustainable, manufacturers need effective and transparent policies dedicated to the long-term survival of the world's forests, woodlands and other natural habitats.

Sappi Europe focuses heavily on this area, working with partners to ensure that the wood purchased can be traced throughout its supply chain, encouraging sustainable forestry practices and risk assessments throughout the fibre supply chain.

Certification of the supply chain

Sappi is committed to purchasing wood and fibre only when it understands how it came to market. The best way to combat illegal logging and unsustainable practices is for all wood and fibre to be certified, or at least controlled or risk assessed.

As part of our commitment to sustainable practices, Sappi has worked with the Programme for the Endorsement of Forest Certification (PEFC™) and the Forest Stewardship Council (FSC®) to achieve globally recognised

standards. These standards cover an array of environmental, social and economic factors pertinent to the safeguarding of the world's forests. Crucially, they provide a mechanism for tracking certified material from forest to final product. Therefore, when you buy or sell Sappi products you can be certain that you are supporting the sustainable management of our forest resources.

One of our milestones was that we were the first paper company to achieve multi-site, cross-border group chain-of-custody certification for our entire European operations against both standards.

In addition, Sappi set a target that more than 70 per cent of all the fibre we purchase should be certified, and we are pleased that this goal was exceeded again. In 2013, 71.4 per cent of the fibres we used were certified, placing us a step above the European average. The remainder of the fibre came from known and controlled sources.

Our demanding targets, however, are becoming more challenging in a market where large volumes of industrial timber are drained into use as biomass for energy.

“ In Austria the forest has grown by more than 300,000 hectares – seven times the size of Vienna – over the past 50 years

The case for certification

All of our wood purchasing partners (or their precursors) have been positively influencing the certification in their regions of operation. All our partners consequently also hold the relevant certifications.

The wood market in Europe is currently a seller's market in which certification is not a necessity for woodland owners to market their products. While we and our partners are working hard to at least maintain our high share of certified wood and fibre, other market players, particularly in biomass for energy, require hardly any certification.

The public perception that biomass is good no matter where the timber comes from is undermining our position as our market takes forest certification for granted. This puts an extra burden on us defending the sensibility of good forest management practices and forest certification in particular.

While our supply situation has partly become extremely difficult and the wood prices have gone up substantially already, slowly legislators are finally realising that subsidising the burning of wood for energy might not always be a very sustainable practice.

The Confederation of European Paper Industries carried out a study to compare wood use for energy with wood used for paper and print. It showed that the cascaded use of wood for pulp and paper generated five times more value, seven times more employment and used the raw material 2.38 times compared with the simple use of wood for energy. See pages 16-17 for more on why we

believe our forest's resources should be used as material such as pulp and paper – with their byproducts recycled into biomass fuel when it has no further material use.

Partners in supply

In the forests that we purchase from, the cycle of planting, growing and logging is meticulously managed. This sustainable approach ensures that more trees are grown than harvested.

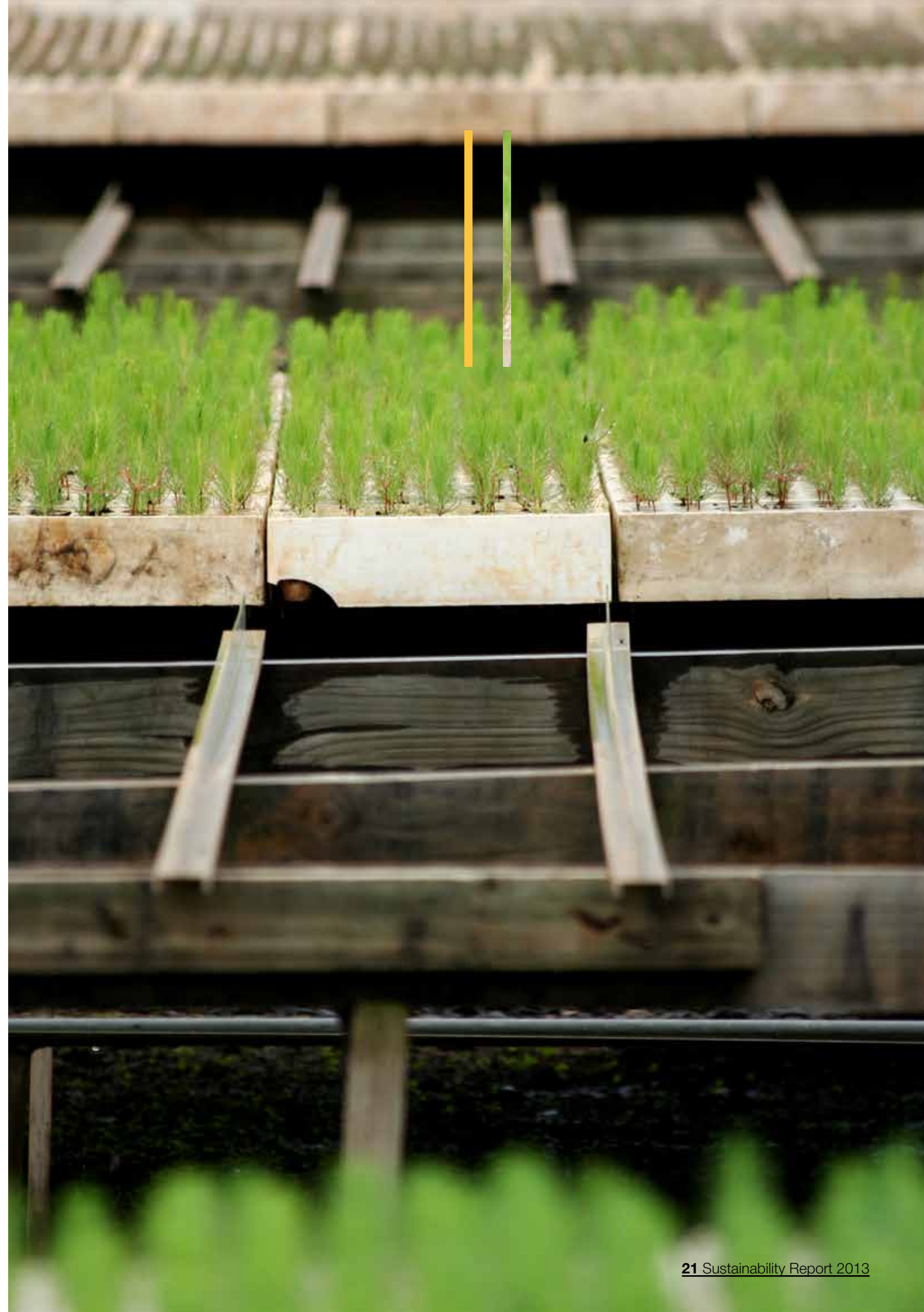
To ensure we get enough raw material wood for pulp production in Germany, we have agreed with SCA Hygiene Products to consolidate our wood procurement activities into a joint venture. As of 1 January 2013 the joint venture operates as ProNaro GmbH (see page 32).

The SCA activities under the company name Thosca Wood have been amalgamated into the new company, whose offices were moved to our Stockstadt Mill. ProNaro sources the wood and chips that the pulp mills at Alfeld, Ehingen, Mannheim (SCA Hygiene) and Stockstadt require.

The annual purchasing volume is about 2.8 million cubic metres of wood. ProNaro mainly sources wood in Germany. The major wood suppliers are the state-owned forests in the states of Bavaria and Hesse in Germany.

With the establishment of ProNaro, from 2013 onwards we are sourcing wood exclusively through external partners, Papierholz Austria for our Gratkorn Mill, Sapin for Lanaken, Metsäliitto for Kirkniemi Mill and ProNaro for Alfeld, Ehingen and Stockstadt.

“ In the forests that we purchase from, the cycle of planting, growing and logging is meticulously managed



One year of business: 12 million trees

In South Africa we plant 33.6 million trees a year: that is about 67 trees a minute, or more than one a second. In Europe we have more diverse forest structures. Typical for central Europe is a spruce stand in the Belgian Ardennes. Spruce is usually planted here in 90-year rotations and about 2,500 seedlings are planted per hectare. These grow at an average of 10 cubic metres per hectare per annum over the 90 years, amounting to 2.78 trees per cubic metre of spruce timber that we purchase. The amount of wood we purchased in 2013 was 4.34 million cubic metres, meaning we needed about 12 million trees grown in Europe to meet our needs.

This is a simplified view that ignores the many types of forestry across Europe. We also believe in the cascaded use of wood. About 30 per cent of the wood we purchase is supplied as chips, which is not only spruce, but also beech and poplar. In addition, the 10 cubic metres growth rate per hectare is an average in Belgium – productive forest stands achieve much higher rates: 20 cubic metres per hectare and more. The figure also does not take into account the trees grown for the market pulp we purchase.

However, what the 12 million trees grown per year does mean is that, while the amount of wood that our processes require is significant, our wood needs financially drive a very sustainable process – growing trees that can be even closer to where our customers live.

A breeding ground for innovation

Some of Sappi's best practice comes from the pulping part of the paper-making process

The work that takes place in Sappi Europe's pulp mills is central to our efforts to be a sustainable company. In fact, Sappi Europe is the biggest producer of sulphite pulp on the continent, with the capacity to produce 675,000 tonnes of sulphite pulp every year. We are committed to reducing our energy use and emissions, and the production of sulphite pulp goes a long way towards achieving this.

There are several advantages to manufacturing sulphite pulp, rather than kraft (sulphate). It produces higher-fibre yields and requires fewer bleaching chemicals, for example – all our pulp mills are totally chlorine-free (TCF). In addition, less energy is required in the refining process, and there are fewer odorous emissions. Wood is also used more efficiently, as a high proportion of residues from the sawmills can be added to the mix. Sulphite pulping also lends itself well to smaller operations; Alfeld, for instance, is our smallest pulp mill.

Sulphite pulp: a recipe for sustainable processing

- 1.** Take wood with a low resin content such as spruce or beech
- 2.** Debark the logs and reduce them to chips
- 3.** Cook the chips in acid for six to eight hours at 140°C and a pressure of eight bar. During this process the binding elements of wood turn into liquid
- 4.** The resulting by-product (lignin and acid) is called lignosulphate

Lignosulphate has useful applications in the building and construction industry, but Sappi uses most of it as a biofuel to power its mills. The pulping chemicals are recycled in this process as well.

Innovation

Sappi's pulp mills have been the breeding ground for considerable innovation in recent years.

One approach is our ongoing commitment to reducing waste sent to landfill. Our organic waste material is burnt to make energy. By creating heat out of biomass and using it to power Sappi's own operations, as well as helping others to meet their

energy needs, the company is adding positive value. It is mainly ash that goes to landfill, when it is not used in the production of cement, other building material, fertiliser and soil substrates.

Currently, the use of chemicals at the pulp mill is process-given. However, Sappi Europe has strict policies designed to ensure that the environmental impact of this part of the operation is as low as possible. Sappi's bleaching processes are TCF: we bleach with peroxide, which leaves behind no harmful chemicals. Our market pulp can also be elementary chlorine-free (ECF).

Water usage is a crucial part of Sappi's operations, so it's important that the company continues to make strenuous efforts to minimise water intake and to recycle and reuse it as much as possible. After use, Sappi cleanses effluents in highly sophisticated waste-water treatment plants to meet local legislation before they are returned to the environment.

“ Sappi is the biggest manufacturer of sulphite pulp in Europe, producing 675,000 tonnes a year

Waste not, want not

A challenging global market means Sappi needs to put even more effort into reducing waste and streamlining the processes at its European paper mills



Sappi's paper mills are at the forefront of our move towards increased sustainability. New technologies, initiatives and changes in culture have been the drivers for some exciting developments, and amid a changing industry and challenging economic landscape, the commitment to our people, planet and prosperity across Sappi's mills remains strong.

Navigating a changing market

Economic conditions in the paper market continue to challenge even the most resourceful organisations. Overcapacity in the market and macroeconomic uncertainty across Europe are key factors, as is the longer-term backdrop of efforts by Sappi and others to create and preserve a level playing field against global competition.

In 2013, Sappi has made some timely and necessary adjustments to its operations in the face of these conditions again. With the conversion of our PM2 at our Alfeld Mill into a machine for flexible packaging paper we have removed 165,000 tonnes of graphic paper capacity from the

European market (see page 32). Moreover, we have reduced our paper production by about 60,000 tonnes at Maastricht Mill by removing one shift.

At both mills these changes are affecting the lives and careers of some of our staff. At our Alfeld Mill, for example, we need less sheeting capacity because speciality papers are predominantly sold in reels.

Treading more lightly on the environment

We have spent considerable time, money and effort in reducing pollution and waste in our mills. Conserving water, decreasing emissions and discharges, and using energy more efficiently are our key priorities. These aims are not just environmentally beneficial, but are also regarded as essential for the long-term growth and prosperity of the company.

All of Sappi Europe's mills are located near to rivers or surface water where water supply is plentiful all year. Water gathered from these sources is cleaned before use and then used several times before it is thoroughly treated to remove

impurities and returned to the environment. Recycling water in this way makes our mills more efficient and reduces our environmental impact.

We constantly monitor the way we use water. Sophisticated piping and instrumentation allows online visualisation of how Sappi's water circuits operate. To maintain a high efficiency level, waste-water impurities are turned into biogas, which is recovered and used as fuel.

At Sappi Europe, we operate combined heat and power (CHP) plants in all of our mills. These plants not only generate electricity but also heat, which is used to dry paper. Such efficiencies mean the company's CHP units are twice as energy efficient as conventional power plants. We make such investments with consideration to our long-term plans, which are designed to create prosperity today as well as in the future.

Innovation and energy efficiency

With energy prices increasing, energy efficiency remains a financial imperative, as well as an environmental concern. Natural

How our waste sludge keeps cows happy

Sappi is committed to increasing prosperity. Waste sludge from the production process is often further used in applications such as the manufacturing of bricks or cement. The dried residual paper sludge from our waste water remains popular as animal bedding material, particularly for cows in local farms.

Farmers tell us that their cows are happier sleeping on Sappi's dried waste sludge than with more traditional bedfellows of sawdust and straw. The material keeps the animals cleaner, as it is less sticky. The improved hygiene also means healthier cows, and therefore better quality milk.

gas is the cleanest fossil fuel we use, but in terms of global competition, the difference in price between Europe and the US continues to grow. It is now more than three times more expensive in Europe than in the US.

Sappi Europe has made considerable headway in energy efficiency improvements as a part of an ongoing drive for more efficient use of energy across the business. While we were able to further reduce our specific energy use, unfortunately it does not translate also in lower specific carbon dioxide emissions compared with 2012 (see page 9).

Sappi's European mills were among the first to achieve international environmental accreditation in the form of the ISO14001 standard and under the EU Eco Management and Audit Scheme (EMAS). We continue to raise the bar in terms of certification and energy management. We publish our environmental (EMAS) declaration on our website. For maximum efficiency, and because very similar procedures are used across the group, Sappi mostly uses group certification.

Sappi's management system encompasses organisational structure, planning, responsibilities, procedures, processes and the provision of resources for developing, implementing, achieving and reviewing the activities of the company. This management system has a long record of certification, first with quality management, then the certification of environmental management stands, health and safety, forestry chain of custody, and energy management.

Our environmental and health and safety standards also undergo aspect and impact analyses, the results driving our mills' health, safety and environmental programmes. And the push for ever higher certification continues. Sappi Europe's Alfeld, Eningen, Gratkorn, Kirkniemi, Nijmegen and Stockstadt mills already hold the ISO50001 certificate. Lanaken and Maastricht mills will follow suit by 2014.

The example of the Netherlands shows the uniqueness of our approach: there are only four EMAS-registered organisations in the country, and two of them are our Maastricht and Nijmegen mills.

More power to Kirkniemi

Kirkniemi Mill in Lohja, Finland, will receive a new power plant as part of Sappi's strategic drive for cost leadership and improved profitability throughout the company.

Work is due to start on the new power plant in May 2014, with an operational date of January 2016 envisaged. The objective of the new plant will be to significantly reduce the cost base by reducing energy costs and securing energy supply. It forms part of the company's strategic cost reduction plan. The plant will flexibly use solid fuels such as bark from the mill's debarking process, other wood-based fuels and coal. Any additional biomass required will be bought from local suppliers. The potential exists to use 100 per cent biomass in the plant.

Underlining Sappi's commitment to sustainable development, processes will be based on Best Available Technology, and the use of effective cleaning equipment will minimise any environmental impact.

Commenting on the decision, Martti Savelainen, Kirkniemi Mill Director, says: "We appreciate the trust shown in the Kirkniemi Mill and the people who work here. The new power plant will support the future operations in Kirkniemi by safeguarding the competitiveness of the mill. Kirkniemi is an effective unit which is committed to delivering value to the Sappi group in a sustainable way."



Grand investment at Gratkorn

Sappi's Gratkorn Mill will benefit from a significant upgrade as part of the company's strategic cost reduction plan. The investment will focus on upgrading pulp production facilities as well as improving papermaking capabilities to secure a significantly lower cost base for the mill. The project supports Sappi Fine Paper Europe's continued drive for cost leadership and improved profitability.

The new investment will facilitate the rebuilding and upgrading of critical parts of the liquor boiler and recovery plant, maintaining pulp production in the mill at current levels. The environmental impact will be positive with a decrease in noise pollution and in NOx/SO₂ emissions to ensure long-term compliance with emission limits. The rebuild will be carried out following detailed engineering works scheduled for March 2015 with start-up approximately four months later.

The technology upgrade of Gratkorn's PM11 production line is part of the mill's 'Fit for the Future' planning. The grammage range for coated paper will also be increased

from 115-250g/m² to 115-350g/m². It is estimated that the conversion will start at the end of the 2014 business year and will take just over a year.

Paper has been produced at Gratkorn for more than four centuries. The mill was completely revolutionised with the building of the largest and most advanced coated fine paper production line in the world in 1996. It is a world-class asset with an annual capacity of 950,000 tonnes of triple-coated fine paper and 250,000 tonnes of totally chlorine free chemical pulp. The mill also has an annual sheet finishing capacity of over 860,000 tonnes.

Gratkorn Mill Director Max Oberhumer says: "We welcome the confidence shown in Gratkorn and its people. We will continue to provide excellent products and services from a significantly reduced cost base."

Siegfried Meissl, Project Manager at the mill, adds: "Continuous improvement and significant cost reduction is always foremost in our minds. We have a strong relationship with our customers and make a point of understanding their needs; these investments will ensure that we continue to meet them."

In it for the long haul

Our approach to transport is to move away from roads and towards more energy-efficient modes such as rail and canals

Sappi Europe has a large and extensive supply chain comprising many individuals, vehicles and depots. The company transports around six million tonnes of finished paper every year. Such a large organisation must look at its environmental impact, which could be considerable if not managed correctly.

Less road, more rail

Much of Sappi's raw material and finished produce is now transported by rail or canal, rather than road. Investment in rail infrastructure at the mills plays an important role in this. Sappi continuously shifts volumes to rail and 'intermodal' (a combination of rail and road) solutions where possible. For example, Sappi's mill in Gratkorn, Austria, recently shifted 17,000 tonnes of material to cargo train. Previously, these materials were carried by lorry. Sappi aims to increase this capacity: block trains from Gratkorn to its operations in Wesel now tow some 22 wagons. We have taken similar action at our Lanaken and Maastricht operations, where transportation

to the south of Europe was shifted from road to intermodal.

Nevertheless, road transport continues to be an important means of distribution. Most customers simply do not have access to rail or canals, and road is often the only practical method of transport for short distances. However, the move to intermodal transport means that 45 per cent of all Sappi's finished paper is transported by rail or canal: both comparatively energy-efficient means of transport.

Intermodal transport

Produce from Sappi Europe's mills in Lanaken, Maastricht and Kirkniemi is now taken to southern Europe via a combination of rail and road transport. This intermodal approach makes sense from both a financial and environmental point of view. "Intermodal transport is a cost saver, good for the environment and more reliable," says Daniel Thiemann of Sappi Logistics Wesel.

The move to intermodal transport also means that Sappi's delivery fleet has been significantly reduced in size. There are now 5,000 fewer lorry deliveries per year as a result of using

trains for long journeys to deliver and collect materials. Sometimes the benefits are even greater, as it is possible for trains to be powered by hydro-electricity. This means emissions can be cut by over 30,000 tonnes a year compared with road transport.

“There are now 5,000 fewer lorry deliveries per year as a result of using trains for long journeys to deliver and collect materials

One-lorry logistics

Kirkniemi Mill has pioneered a new approach for deliveries to Finland, making them faster and cheaper. Deliveries are loaded on to one lorry that makes the entire journey. Previously, cargo was unloaded on to a boat.

"The solution not only saves money but also makes sense from an environmental point of view," explains Markus Höft of Sappi Logistics Wesel. "Finland imports more volume than it exports so trucks often leave Finland empty. Therefore Kirkniemi can utilise otherwise unused cargo volume which also comes with a cost advantage."

When opportunity knocks

The long-term sustainability and prosperity of Sappi depends on constant innovation, presenting new ideas and products to its printers and consumers. Here are a few examples

Project Oscar: seeking the right opportunities

In the past Sappi has asked itself what it can make of its existing assets and expertise. Now, with the use of fine paper in decline, the company needs to find ways to expand its offering to ensure its long-term sustainability.

So now the question is: 'What opportunities are out there?' To answer this, Sappi is backing start-up businesses far beyond its normal remit through an innovative scheme that brings together brilliant young thinkers from a range of disciplines.

The scheme is called Project Oscar, through which teams are given time and space to explore and think freely, in complete isolation from the rest of the business.

Once an idea has been conceived and explored by the teams, they present their ideas to the company. This is done via a *Dragons' Den*-style pitch to the Sappi European Management Team, who give the green or red light on the day.

To ensure Project Oscar is a success, Sappi is working with the Board of Innovation, a Belgian organisation that helps large

multinational companies to identify innovative ideas and turn them into successful business ventures.

"Big companies have to focus on operational excellence. But innovation needs a different mindset: you need to take more risk," says Philippe de Ridder, co-founder of the Board of Innovation. "Innovation needs a separate space, like an incubator, where you nurture ideas and develop the good ideas into business ventures."

Some business projects are being implemented as a result of Project Oscar, which means that Sappi has gone from brainstorming ideas to hitting the market in under 17 months. Sappi recently started the second wave of Oscar, so there will be more in the pipeline.

Project Leopard: a new future for Alfeld Mill

Big changes in the paper industry mean that Sappi has had to make some bold decisions. Project Leopard is one of these. The project was to convert Paper Machine 2 (PM2) at Alfeld Mill, changing its use from creating graphic fine paper grades to speciality substrates. The €61 million

rebuild was a key part of a plan to make Sappi the market leader in speciality papers.

There were significant logistical challenges, not least the transport and installation of a 135-tonne MG cylinder, 6.5m in diameter. The cylinder was cast in Sweden and was transported via barges and lorries.

The final challenge was installing the mighty cylinder. For this, Sappi hired one of Europe's largest cranes, which itself weighs 1,200 tonnes and is 80m wide and 96m high. A fleet of 60 heavy-load transports were

Helping customers plan their paper use

Printers and publishers will be able to manage their operations more efficiently thanks to new services from Sappi. Dynamic Replenishment and Guaranteed Availability services will mean customers will be able to cut waste, hold less stock and calculate paper demand more accurately. "It even makes planning easier because we get fewer call-off orders and last-minute cancellations," says Marc Jeurissen of Lanaken and Nijmegen Mills.

Printer/consumer

required to move the crane to the mounting site.

The enormous project came to fruition on 12 October, when the first sheets of commercial product were produced. The machine's rebuild has also allowed Sappi to develop a range of packaging papers with a functional mineral oil barrier coating, which prevents mineral oil and other contaminants leaking into food from cardboard containing recycled newsprint. Alfeld Mill won the award for Advances and Innovation in Speciality Papers at the 2013 Pulp & Paper International awards.

ProNaro: cooperation is key

Working closely with partners and suppliers has long been a part of Sappi's ethos. Its joint venture with SCA Hygiene Products is an example of the benefit of this approach.

The two companies began collaborating in 2010 in the purchase of pulp. They now buy wood together and both companies hold a 50 per cent share in a new joint venture, called ProNaro. Holding the same green values is key to the success of the project, which also brings significant cost and logistical advantages.

"This is another meaningful step in the cooperation between SCA and Sappi and secures a wood supply on a long-term basis for our pulp production in a cost-efficient, sustainable and professional way," says Sappi Supply Chain Director Randy Rotermund.

"A cooperation with Sappi opens up new possibilities and opportunities for our wood sourcing organisation and logistics and provides significant cost savings," says Andy Woodburn, Vice President at SCA.

Both companies have former staff members on ProNaro's board.

Perfect paper proposals

Golden oldie

One of Sappi's oldest paper machines, PM6 at Maastricht Mill, celebrated 50 years of service this year. It is Sappi's largest machine in Europe that produces graphic papers up to 400g/m². It was rebuilt in 1996 to become a high-speed specialist machine for high grammages.

Algro Nature

Algro Nature is a revolutionary coated flexible packaging paper made from renewable resources for food, confectionery and pharmaceutical packaging.

The product came to life in 2011 when Sappi joined forces with Innovia Films, a packaging film manufacturer. Innovia already had a product range called NatureFlex, a renewable and compostable cellulose-based film with tailored moisture and barrier properties. Both companies recognised that the best end-of-life options for flexible paper/film laminates are either industrial, home composting or ultimately anaerobic digestion, which turns waste into a useful energy source, rather than landfill or incineration solutions. Innovia Films brought its unique expertise in manufacturing compostable film; Sappi brought to the table its knowledge of manufacturing flexible packaging papers. Together they created coated and uncoated compostable flexible packaging options.

The resulting product provides users with a highly adaptable and technically functional laminate

structure as well as the best end-of-life options.

Algro Nature is a home-compostable one-side coated paper; Leine Nature is an uncoated equivalent, which is also compostable. The products have been independently tested and have received the 'OK Compost Home' certification by Vinçotte, and also the compostability DIN E13432 certification by DIN CERTCO.

Sappi Jaz

Jaz is Sappi's first foray into the high-speed inkjet printing market. The first paper in this range, Jaz silk, was launched in 2011, with Jaz gloss and Jaz book versions introduced subsequently.

Digital printing is an increasingly popular alternative to traditional offset printing methods, as the cost of digital has come down over the past few years, and the quality has risen. It can be used for print runs of all types and sizes and allows more flexibility and variety and a quicker turnaround than traditional offset methods. This is because it avoids the cost and time of making up plates.

We realised that this fast-moving

technology needed a specially designed paper – and this is exactly what Jaz is. It combines the neat, sharp look and feel of an offset paper with the full personalisation options and flexibility of digital printing. The technology behind it has been developed and fine-tuned with HP so customers can be sure of perfect performance on high-speed inkjet printers. There is no need for any paper pre-treatments, therefore optimising the total cost of printing.

Six initiatives you should know about

1 Houston

Houston is Sappi's online knowledge platform. It was specifically developed as a support tool for professionals working in the paper and graphic industries. It provides easily accessible information on paper, printing and converting-related topics, as well as live experts who work with professionals to find solutions to issues in real time.

If there's anything you need to know about paper or print, Houston will have the answer in the form of technical brochures, videos and other useful tools, from information on the latest printing techniques and paper types to market trends. Polls, market feedback and opinions are also hosted on this regularly updated site, providing valuable news for professionals about the broader industry environment.

sappi.com/houston

2 My Life in Print

My Life in Print celebrates the richness that print brings to the lives of people in all walks of life, in all sorts of situations and for all sorts of reasons. The magazine contains five chapters exploring how print puts us in touch with ourselves; the unique place of print in the media mix; why print and paper are key to a sustainable future; the enduring adaptability of print and paper; and how print allows us the space to be who we really are. This publication belongs to the Life With Print (LWP) initiative, the objective of which is to show the efficient and effective use of the right media mix.

3 Impressions

Impressions is Sappi's regular company e-newsletter. It keeps subscribers up to date about what's going on behind the scenes at the company and in the world of paper and print. It provides a solid snapshot of everything one should know about Sappi's activities, from awards and product launches, to new initiatives and updates.

4 What's Next

What's Next is first and foremost a support tool for Sappi and its customers. It is a great example of Sappi knowledge in action. The articles and themes in the magazine show the power of printed media. It contains articles and case studies about international companies that use print successfully, often in combination with digital media and increasingly with wider experiential activity. The magazine was a finalist in the Promotional Campaign of the Year category at the 2013 Pulp & Paper International Awards.

What's Next is printed on different Sappi papers and with each change we explain why it has been chosen to complement that set of articles. It cuts through the usual technical jargon to explain the benefits of the products in a language our audience understands. The magazine is Sappi's way of demonstrating how effective paper is as a medium, and to share the emotional and tactile experience of reading in print and how it can inspire action. It epitomises Sappi's passion for print, testing and pushing the boundaries of paper's capability.

whatsnextmagazine.net

5 The Treehouse

The Treehouse (left) is a unique space for like-minded individuals and companies to come together to find ways to embrace sustainability in their daily activities. This inspiring hideaway, high up in the treetops in the forest of Bosland in Flanders, Belgium, is designed as an open book, so both physically and mentally it provides a blank canvas. It is designed to inspire and drive sustainable thinking and environmentally creative thought processes. People can meet at the Treehouse to brainstorm, generate ideas, and put them into action.

The Treehouse is the result of a joint vision and partnership between Sappi Fine Paper Europe, the Agency for Nature and Forests, the Belgian Municipality of Hechtel-Eksel, and communications agency Proximity BBDO.

the-treehouse.be

6 The Sappi Cup

The Sappi Cup Table Football Tournament is an increasingly popular event for Sappi customers, printers and publishers.

Held annually since 2010, a series of qualifying matches are held in Sappi's sales offices throughout Europe. This culminates in 16 winning teams taking a trip to Brussels for the finals.

The Sappi Cup has developed into a great opportunity for friendly competition, social interaction and dialogue with customers throughout Europe.

The tournament follow rules issued by the International Table Soccer Federation.

People and culture

Chapter

3

All revved up



Rainer Neumann
HR Director
Sappi Europe

Sappi Europe's biggest cultural shift in 2013 was the introduction of the Sappi Performance Engine, a company-wide method for continuously identifying ways to make sustainable improvements. Here's how it will change the work culture at Sappi for the better

Q: What are the biggest challenges facing Sappi now?

A: We want the business to be sustainably profitable and for this to work we need to implement some important changes. This includes strategic and tactical initiatives which address cost and profitability. The Sappi Performance Engine (SPE) will help us to do this, and its key pillars of high performance, continuous improvement and inspirational leadership will be the foundation of how our company is run.

Q: Tell us more about SPE

A: SPE is a method by which we will transform our company into an organisation that relentlessly focuses on continuous improvement. It's about creating a stronger company culture where managers trained in Hoshin Kanri* deployment methods work with staff to align company

objectives and priorities with their development. All staff must be involved and our target for performance management feedback is 100 per cent in 2014, compared with 75 per cent last year. Our managers will become coaches, addressing underperformance, but also focusing on their team's strengths. SPE leads to a culture of continuous improvement, where people unlock their potential. However, these processes must be carried out in a respectful way. We want people to work together to solve problems and communicate effectively. Staff and managers are all accountable and have responsibilities in line with the targets deployed.

Q: How does SPE differ from other strategies?

SPE is much more than a strategy. It is the remaking of how our

*What is Hoshin Kanri?

It translates as 'direction management' in Japanese. It is a compass that gives us a direction to follow and that uses the collective thinking power of all employees to make their organisation the best in its field

organisation runs. It has many facets, including cultural and behavioural changes, which are needed for us to be successful. This process will further develop year by year.

Q: What differences will employees see day to day due to SPE?

A: They will be able to understand our strategy, targets and the relevance of their contributions more clearly. They will be encouraged to identify problems, communicate them and solve them by themselves. Also, our leadership culture will be more focused on asking about root causes of problems, rather than prescribing solutions to employees. It will be a high-performance organisation where staff deliver and outperform their targets: a stronger, more positive company.

Q: How do you make sure your employees are part of the change?

A: SPE is a journey and we expect our managers to take our employees through it with developmental feedback and coaching support. With the support of manufacturing company Fischer (see next column), we have taken our 100 most senior managers through an awareness and capability-building journey and now they must work to empower their staff and bolster their skills and confidence. The Sappi performance managers will drive the SPE culture at each site or central function and develop a continuous improvement mindset.

Q: How do you challenge your employees to continually improve, without making them resentful?

A: This is a very thin line. We need all our employees' capabilities and ideas to make this organisation more efficient and effective. Every single step of improvement counts. Also,

all this must be achieved against the reality of further improving the company's cost-effectiveness.

Q: What is Fischer's role in SPE – how are you working together?

A: We engaged with Fischer – a leading practitioner in continuous improvement – to further stimulate and enable our most senior managers to create a high-performing organisation. Fischer has also helped us get the Hoshin Kanri process off the ground as effectively as possible. Going forward, the SPE will be fully driven by management and without any external support.

Q: How do you intend to share best practice throughout Sappi?

A: Sharing of best practice will continue to happen informally, by employees talking to each other, sharing thoughts and aligning best practices across Europe. We also have a continuous improvement database in place, which is accessible to all employees.

Q: How does SPE ensure the long-term sustainability of Sappi?

A: Sappi aims to be the cost leader in the business we are in. We will achieve this by relentlessly focusing on continuous improvement as an organisation. This will enable us to be as efficient as possible and to reach new and higher targets. It will also give us a competitive advantage and provide our customers with an even better service. This in turn will make the business sustainable.

Q: Will SPE ever come to an end, or will it be followed forever?

A: This is a model which will not end. We will continuously reflect what else is needed and how we can improve.

“ Our leadership culture will be more focused on asking about root causes of problems, rather than prescribing solutions to employees

A sustainable workforce

A commitment to people is one of the pillars on which Sappi's business rests. Our employees are vital to our success and we want our mills and offices to be great places to work. Sappi's ethos of the 3Ps – Planet, People and Prosperity (see pages 8-15) – illustrates this commitment. However, there is no single policy that can make this happen, but rather, a series of initiatives which help to create a culture of health and well-being.

Sappi is very committed to having a fulfilled and engaged workforce that delivers on its key business drivers. We believe it is important that the work of every employee is connected to our overall strategy. As a result, Sappi focuses on creating work environments that stimulate and support our employees in building strong skills through training and development initiatives. This in turn will help staff to improve their performances and increase the prosperity of the whole company.

Our leaders play a key role in that process. Strong and effective leadership will make the difference – be it towards engaging our staff,

further transforming the workplace, or leading the changes needed in our constantly evolving environment.

We are confident that our people initiatives are well established and support the various challenges we are facing now and in the future.

Skills and sustainability

We are committed to building a sustainable future for our business and staff. Skills and training play an important role in this ambition.

However, responsibility for this rests with both management and staff. Sappi creates a work environment that stimulates and supports employees to continuously increase their skills, but this desire to improve must be driven by the staff members themselves.

An ever increasing skill and experience base enables managers to more easily realign the company's operations with customer demands as they change. The paper industry is going through many challenges and this dynamic period is likely to continue. But by increasing and improving their skills, staff will be a resource upon which management can continuously draw.

Connecting our people to our business

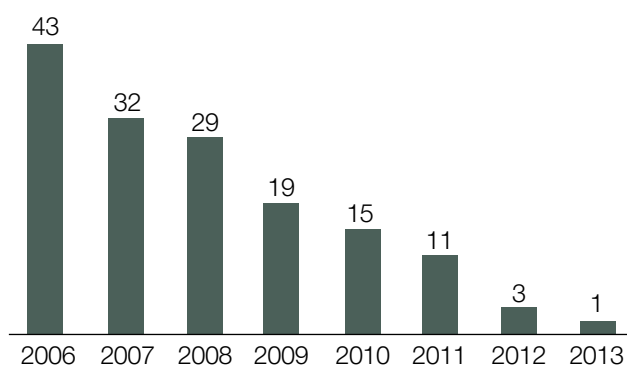
Sappi's management makes considerable efforts to discuss the future of the business with all employees. Its processes enable them to understand fully what they need to do in their roles to contribute to the overall achievement of the strategy and annual business targets.

This process is a key component in our continued activities to build a high-performance culture. In addition, we rigorously follow through on our targets and, as of the 2014 business year, all employees will participate in a performance management process.

Sappi's communication and strategy initiatives include:

- Annual roadshows by the CEO, supported by European functional heads. The last roadshow, in autumn 2013, was a great success
- Cascading corporate and regional strategy; and ensuring through the Hoshin Kanri deployment process that key business goals, projects and improvement initiatives are linked and coordinated organisation-wide

Safety at Stockstadt: total lost time incidents per year



Gold safety for Stockstadt mill

Sappi's Stockstadt Mill has won gold for its excellent safety record after posting a million hours of work without an incident. No other mill has achieved the Safety Gold Award since 2008, when Ehingen became the first mill to reach this achievement.

"It's about teamwork," said manager Martin Schilha. "You can't build an accident-free environment when only some people are committed. They have to know safety is more important than working fast."

In addition, the mill was a finalist in the Managing Risk and Safety category at the 2013 Pulp & Paper International Awards.

■ Identification of key metrics and responsibilities for each goal, and translating those metrics into projects and activities with regular reviews. This will install a disciplined approach to following through to results

■ During 2014, we aim to include our blue-collar population in Stockstadt in our performance management process so that every employee in Europe will have a performance management discussion with their line manager.

Training and development

Our focus on training and development, whether it is to learn

new skills, improve performance or to prepare for a future career step, is a strategic tool for Sappi's continued growth, productivity and its ability to retain valuable employees. Together with our employees we aim to foster a culture of life-long learning, supporting our employees to continuously increase their skills in order to maintain employment or to progress to sustainable employment.

This approach is becoming increasingly critical for our success, especially in the context of ageing workforces, rapidly changing demands, declining numbers of apprentices and a lack of skilled workers in the foreseeable future. In addition, we believe that this becomes increasingly important as organisations in general are no longer able – if they ever had been – to provide for life-long employment. The better our people are equipped with relevant skills and experience, the higher their chances are to find new employment in case they ever were to lose their job with Sappi.

We will also continue to foster skill development through increased focus on learning on the job. We believe that a blend of different

approaches can provide powerful learning. As 70 per cent of learning takes place on the job, it is crucial that leaders give the right experience opportunities to their people, enabling them to grow capabilities to support Sappi to their best abilities. We will support our leaders in that role while encouraging them to coach and provide feedback to their employees.

The industry is going through many changes. Continuously investing in our people, as well as bringing in new and younger staff with potentially different skills and mindsets, will help us to remain competitive. Sappi's apprenticeship programme provides more than 220 school leavers with training for roles such as paper makers, process operators, engineering artisans and business clerks. This training comprises both formal learning and practical on-the-job experience, and means a new generation of workers is coming into Sappi's operations. At the management level, Sappi's pan-European two-year graduate trainee programme enables the company to source and grow managerial talent. Meanwhile there are company-wide targets to ensure

that every employee gets 30 hours of training per year, which we managed to achieve in 2012 and 2013.

Developing a strong leadership culture

Sappi focuses on building leadership capability at all levels of the business and is committed to bringing through these people from the existing workforce. We believe that a strong leadership culture is crucial for the execution of our strategic priorities. Sappi has defined a set of leadership competencies, which state what qualities and behaviours are expected from our leaders. It also runs an annual bottom-up talent review process to identify, validate and further develop all its talents across the organisation. Over the past 10 years, about 100 managers have participated in Sappi's Leadership Academy. During this 12-month programme, participants take part in development initiatives focusing on Sappi's six leadership competencies. The company aims to run this initiative for a group of up to 15 participants on a regular basis.

By continuously developing the leadership skills of managers and

ensuring they have an understanding of leadership appropriate for the times, Sappi is establishing prerequisites for attracting, retaining and developing good people. All managerial and supervisory staff have been trained in-house in situational leadership. This training is targeted to further enable managers to adjust their leadership style to the employee, and thereby improve the overall effectiveness of process and results.

More than 160 employees have participated in the Business Academy over the past 10 years. This programme provides insights into the pan-European business and functional strategies and networking opportunities. Professional tools are used to give its leaders regular feedback on how their environment sees them behaving, as well as continuously growing their self-awareness to build effective relations across the organisation.

Women and diversity

As a global company, we employ a diverse workforce. We value this diversity, believing that it contributes to innovative thinking and our ability

to serve diverse global markets.

A workplace free of discrimination and harassment is the minimum requirement for all modern companies, and Sappi has effective policies in place that take this into account, bringing forward people with different nationalities, backgrounds and experience into management positions. Of the management appointments from within the company over the past few years, two-thirds were from a different function, location and/or nationality.

Sappi has also intensified its efforts to recruit, retain and promote women. This is a challenge because women traditionally have been under-represented in engineering. Sappi is aware of the need to appoint women at management levels and continuously strives to address this.

Engagement and staff retention

The Sappi Group employee engagement survey measures our staff's attitudes at work. It measures the level of sustainable engagement, in particular whether our staff are enabled and motivated to deliver their best performance. The survey



began in September 2013 but its results were not yet available by the time this report went to press.

Sappi needs to keep our best people, and a low staff turnover rate is a clear indicator of whether or not this is happening. In 2013, Sappi's turnover rate was 5.4 per cent, down from 7.4 per cent the year before. The company's voluntary turnover numbers are considerably lower – 2.3 per cent. Sappi's aim is to keep voluntary turnover below 2.0 per cent.

Trade unions

The industrial relations between Sappi Fine Paper Europe and its unions and employee representatives is generally constructive and good – bargaining and negotiations overall take place in good faith. The company will continue to keep dialogues open and cordial and ensure staff are properly represented.

Health and safety in the workplace

Sappi's health and safety approach has five key ambitions:

1. A zero injury rate
2. Integrated health and safety management

3. Training at all levels

4. Participative information and control structure

5. Adherence to international best practice and safety standards

We hold a Safety Awareness Day at all our sites around the world. This is to focus the attention on health and safety and to ensure that all staff behave responsibly for the sake of themselves and their colleagues.

Sappi's mills are getting safer and the majority of the company's plants have achieved the target of one million hours without an injury. The company officially recognises plants when they pass this milestone.

Sappi supports its staff in maintaining their physical and mental capacity to perform, and in encouraging them to adopt healthy

lifestyles throughout their working lives. We offer preventive medical check-ups and programmes. Activities range from flu vaccinations, support of employee sports and social activities and counselling for employees whose well-being is affected by work or external factors, to consultation with a dietician and stop-smoking support programmes.

We continue to evaluate with our employees, works councils, medical staff and external expertise the appropriateness and effectiveness of our shift systems. We currently run various pilots with revised 'healthier' shift systems.

We hold re-integration meetings between management and absent employees across all our sites. These meetings help our employees to return to work as effectively as possible by jointly defining and addressing issues that might cause them to be unable to work.

We also provide burnout and stress prevention support in the form of awareness training for managers, supervisors and employees in how to become more stress-resistant and relaxation strategies.

Compensation philosophy

Sappi's compensation policy is about rewarding staff fairly and equitably in relation to job level, experience and employment market.

Variable rates of pay designed to drive individual and team performance are part of this policy. All staff participate in a variable bonus programme which pays out if certain thresholds and targets are met.

In addition, we have a sales incentive plan for our sales staff, as well as a globally aligned management incentive scheme for managers. Long-term incentive awards are granted to our management group across Europe through the Sappi Limited share incentive scheme and the Sappi Limited performance share trust.

Pensions

The majority of our employees are covered through social security funded state pension schemes. Sappi offers company pension schemes to:

1. All employees where minimal state pension schemes are provided (for example, in the Netherlands)
2. Certain employees (senior

management) where state pension schemes provide a replacement income only up to a certain salary level (for example, management pension schemes in Germany and Austria)

3. All employees in line with market practice and in response to relatively low state pensions (for example, in Belgium). While our existing schemes are a combination of defined contribution and defined benefit plans, in the future we intend to offer defined contribution plans only where appropriate.

In summary

Sappi can secure its future by attracting skilled employees, continuously developing their skills and building loyalty and engagement through a wide range of initiatives and services as detailed in this report. Measures that will help us to achieve our goals include:

- Offering attractive conditions and training programmes to prepare young, skilled employees for their future work and ensuring that we retain employees with key skills for the long term

- Analysing individual competencies and focusing on developing them through our competency and talent management programmes

- Showing our appreciation for our employees' dedication – for example, through competitive remuneration and a range of additional benefits

- Promoting the mental and physical health of our employees and providing them with secure, healthy jobs

- Supporting collaboration within the company between people of different cultural backgrounds, age groups and genders

- Complying with all the relevant standards and declarations at all times

It takes inspirational and engaging leadership to attract, develop and retain talented and motivated employees who form the heart of a high performance culture. At Sappi we are confident that our programmes are sufficiently rigorous and far-reaching to enable the company to create a high performance culture and for the business to fulfil its ambitions.

Did you know?

Sappi staff help to give forests new life

In 2013, employees took to the woods to plant trees in a team-building project in which 10,000 saplings will eventually be put into the earth. A team of 50 ventured out to the Forêt de Soignes near Brussels to plant 2,700 saplings. This is the third year they have done this and overall they have planted more than 8,000 trees.



Chapter 4:
Key performance indicators

How we measure how we're doing

Our paper is based on fibres derived from wood – a renewable resource with high levels of renewable energy, and which is completely recyclable. The pulp and paper production requires sophisticated processes, raw materials and energy. The management of the environmental aspects of these processes and their impact is part of our day-to-day work.

The following performance indicators offer a deeper look at our environmental performance data over the past five years – from fibre procurement and energy usage to the impact that our operations have on air, water and solid waste.

Please note:

- The reference year for our 2017 sustainability targets is 2012. We have also shown the annual performance for emissions since 2009 to display trends. 2009 was important for Sappi Fine Paper Europe with the integration of four mills from paper manufacturer M-real: Kirkniemi and Kangas in Finland, Stockstadt in Germany and Biberist in Switzerland. We have closed some of our assets since then and the figures below do not include these.
- In 2013 we curtailed production again due to poor market demand. This had a negative impact on environmental indicators. Paper machines are designed for continuous production. Starting and stopping them

requires extra water and energy and affects the efficiency of the production process.

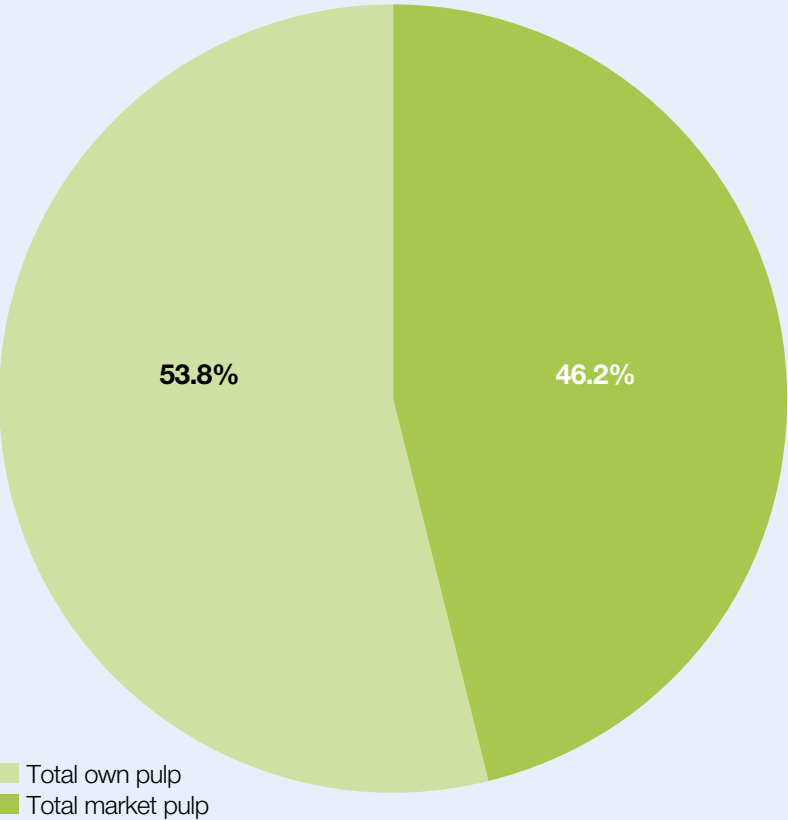
- Compared with the figures in our 2012 Sustainability Report, this time we are reporting specific figures on saleable paper production plus pulp sold. The 2012 base unit was saleable paper production plus pulp manufactured. The changed reporting base has significant consequences when interpreting the results. Since the sold pulp volumes are small, about 1.1 per cent of the total in 2013, the emissions are distributed over a much smaller production volume than in the previous report. This change is in line with reporting practice in Sappi's South African and North American regions.

Fibre

Over the past five years we were able to increase the share of certified fibres and keep it well above 70 per cent. Our European mills predominantly use Programme for the Endorsement of Forest Certification (PEFC) for their fibre sources. Overall, the number of certified forests is slowly increasing in western and central Europe. Any non-certified material entering our products is subject to strict risk assessment processes which meet Forest Stewardship Council (FSC) Controlled Wood requirements and the PEFC Due Diligence System. We are the Europe market leader in integrated sulphite pulp production. Together with chemical thermo mechanical pulp production at Lanaken Mill and the thermo mechanical pulp and pressurised ground wood production at Kirkniemi Mill, we produced about 54 per cent of our fibre needs ourselves.

Any non-certified material entering our products is subject to strict risk assessment processes

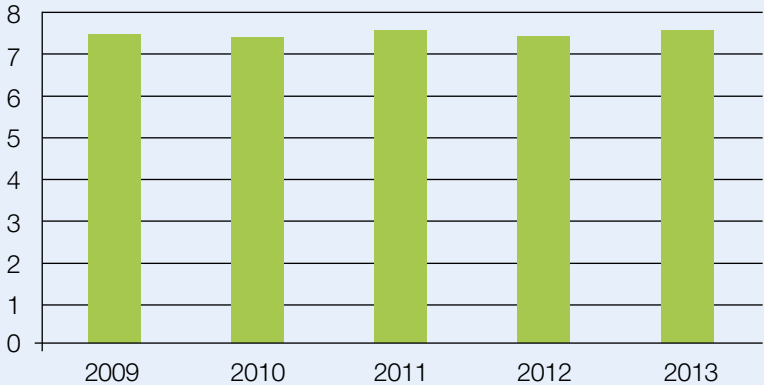
Integrated pulp v market pulp



Waste

The material that is landfilled is to a large extent ash, which can also be used in the production of cement, other mineral building materials, fertiliser and soil substrates. The majority of our ashes are already recycled and we are further working to reduce the amount of material to landfill. No organic material from our mills goes to landfill. Where possible, the organic waste material generated at our sites is used as a renewable fuel on site to produce by-products. Waste paper, scrap metal, scrap electronics and even most of the hazardous waste and building rubble is recycled, while residual waste is sent to sorting centres where recyclable material is recovered. The upward move also has to do with the lower production in 2013. We are however still looking into further opportunities to find recycling solutions for this material.

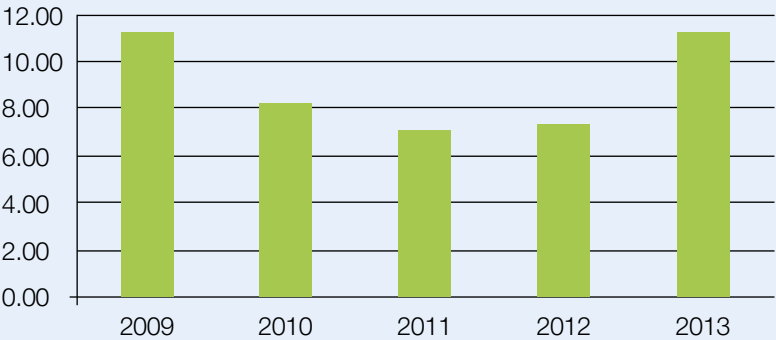
Effluent COD (kg/ad)



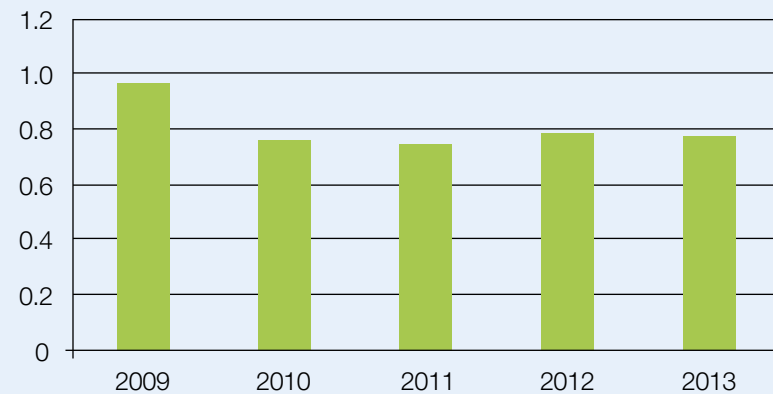
Water emissions

Chemical oxygen demand (COD) is one of the key indicators for organic pollution to water. Our highly sophisticated waste-water treatment plants dramatically reduce the organic pollution. Some of the COD is residual lignin that our treatment plants cannot reduce further. However, it is inert and does not reduce oxygen levels in receiving waters. The general specific trend is downwards with a small increase in COD in 2011.

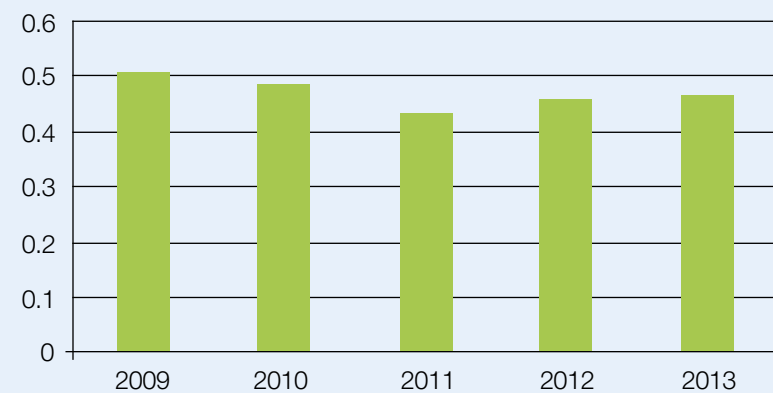
Landfilled solid waste (on and off site, kg/ad)



NOx emissions (kg/adt)



SO₂ emissions (kg/adt)



Emissions

The emissions parameter that gets most attention is carbon dioxide because of its impact on climate change. We are addressing this with our reduction target (see page 9). It is also important to control sulphur dioxide (SO₂) and nitrous oxide (NOx) as they can contribute to acid rain which in turn damage our forests' health, as well as the health of the plant and wildlife around us. SO₂ is emitted by using fossil fuels such as coal and oil. More significant, however, are the emissions from our recovery boilers, which use the black liquor from the pulping process. The SO₂ in the off gas of the incineration process is recovered in a cascade of wet scrubbers and recycled into cooking acid.

NOx emissions are caused by any combustion process where nitrogen (air) is present. High temperatures, which are sometimes needed to increase efficiency, can increase the generation of these emissions. While the NOx emissions could be reduced we saw a small increase in the specific SO₂ emissions in 2013, mainly due to the reduced paper production while at the same time keeping a high level of integrated pulp production.

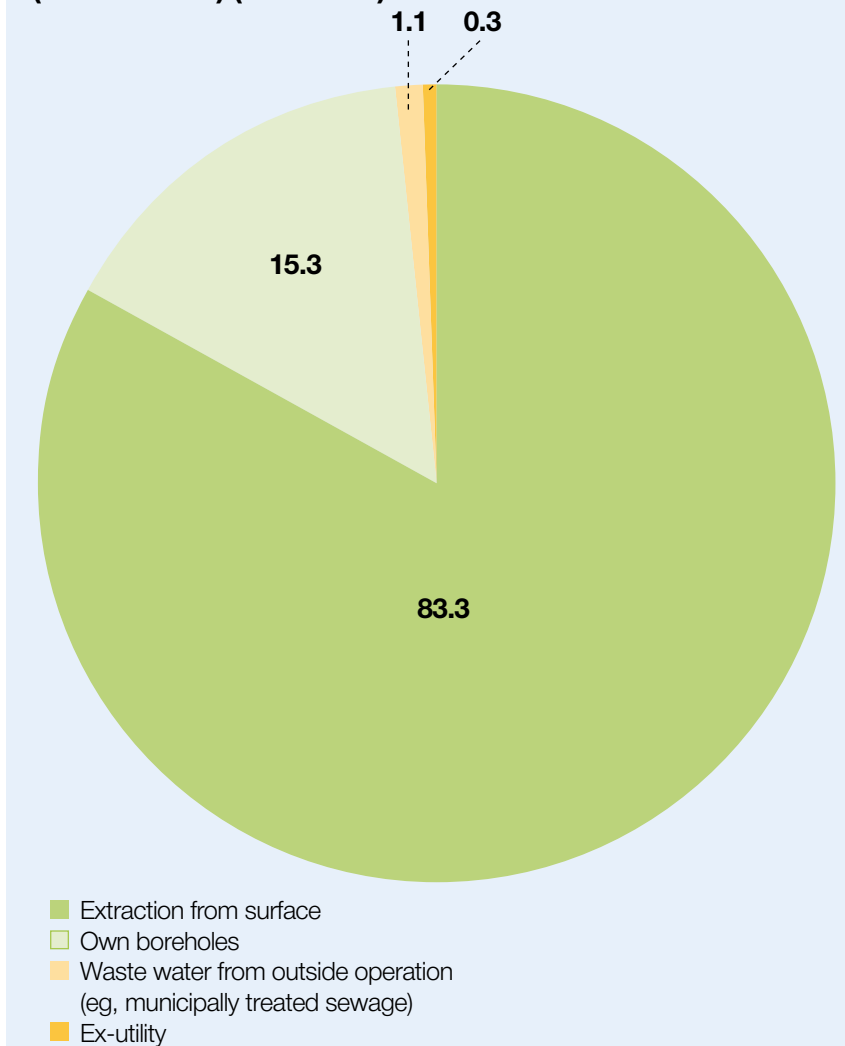
Water

Compared with the base year 2012, our specific water use is up by 1.3 per cent. Low production volumes also affected this performance indicator.

The basis for our water supply is predominantly surface water. For a complete balance, we would have to consider the water in our raw materials (paper contains about 5 per cent water), evaporation and precipitation. By far the largest share of our water is abstracted from river or surface waters. Wells on or very close to our mill premises account for 15.3 per cent and a very small amount is municipal water. We also treat a small amount of waste water from external processes, which accounts for 1.1 per cent.

“By far the largest share of our water is abstracted from river or surface waters

Breakdown of water use (environment) (% of total)

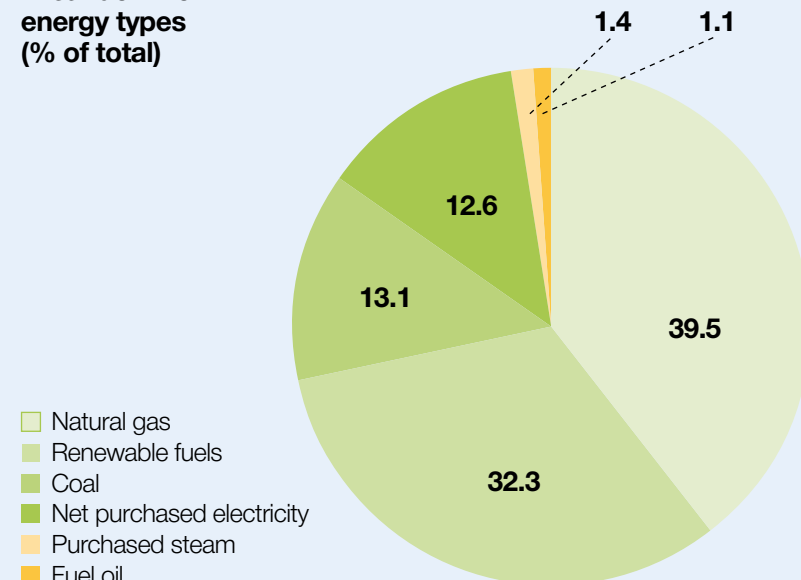


Energy

Although the total use of energy went down last year, the share of renewable fuel dropped by 1 per cent with still a remarkable share of 36.2 per cent. The low power prices, in combination with very high natural gas prices, made us reduce the power generation with our highly efficient gas-steam turbines. We have been purchasing grid power during low price periods instead.

The large investments in renewable energy, particularly solar and wind, are the main cause for this changed market. To a certain extent this is an example of a working market. We are stopping our own power generation in periods when grid power is more than abundant and consequently low priced. This

Breakdown of energy types (% of total)



helps to balance the grid. The extremely high natural gas prices are, however, a concern to us. This price level negatively impacts our competitiveness in the global markets since the price level of energy in other regions is significantly lower. While the price for natural gas is very high, prices for coal have been going down. The press are calling it a 'renaissance of coal'. Coal is therefore currently the lowest priced primary fuel that we have. However, the level of coal use at the mills where we use it – Gratkorn and Stockstadt – has not increased significantly.

The shares of total energy use includes all fuels, purchased steam and the net balance of sold and purchased power.

sappi

The art of adding value

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