Environmental Statement 2017

Sappi Stockstadt GmbH

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Environmental targets
Results
Certifications

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Sappi Stockstadt on a journey

Dear reader,

It has been three years since our last, full EMAS Environmental Statement - a period of remarkable development for the Stockstadt Mill. In 2014, we reported on new challenges facing the graphic paper industry, in particular due to changes in consumer behaviour. Sappi Stockstadt GmbH has taken up these challenges and embarked on a journey. The ongoing development of existing products and the development of new processes, papers and services together lay the foundation for successful business in a changing environment. Success demands that existing plants are run as efficiently as possible with production volumes at the highest possible level. We have been very successful in this respect over the past financial year. Paper production played its part in this by setting a new production record - never before in the history of Stockstadt has more than 447,606 t of paper been produced (total paper production)!

This environmental statement also sets out clearly and in detail how stable production processes also result in strong specific environmental performances. Investment in clean air technology and its ongoing optimisation led to a fall in absolute and specific nitrogen dioxide emissions. Optimisations in the production process have resulted in lower specific wastewater loads.

The fact that an industrial company of the scale of the Stockstadt Mill may also cause pollution due to the proximity to residential developments is undeniable. The focus in this regard is on reducing noise pollution - a noise reduction programme has been launched in coordination with the authorities and we shall be reporting on this in detail in this issue.

The investments planned for the coming financial year indicate that our journey is far from complete. A new steam turbine is planned for more efficient power generation - this will replace four old turbines. To improve pulp washing and to reduce wastewater loads, new washing units have been, and are being, installed, and a six-figure investment is being made in noise protection measures.

Each day, our highly motivated employees ensure that our ambitious targets for the improvement of our environmental performance are implemented and, at all levels, they ensure the integration of the continual improvement process within everyday work. We refer to this principle as the “Sappi Performance Engine”. The SPE will be developed even further over the coming years, in particular in terms of the greater involvement of all of our employees.

Happy reading!
Yours

Christian Dietershagen
Managing Director Sappi Stockstadt GmbH

Fine and specialty paper from Stockstadt.

Sappi Stockstadt GmbH is part of the South African Sappi corporate group, the global market leader in coated fine papers.

Sappi Stockstadt has focussed on providing high quality and sustainable products and services to the specialist trade, printers, publishers and designers. Our uncoated paper, coated fine paper in gloss or matte finish and our specialty paper help our customers to achieve their goals. We produce our papers on two paper machines and one coating machine and offer both sheet and reel products.

Our fine paper is typically used for high-quality promotional brochures, company reports, books and magazines. However, due to the changing market, we are increasingly offering paper for specialty applications such as the production of label paper, lining paper - in the form of a top layer for corrugated cardboard - or for high-quality fashion bags.
In particular, high-strength and easy-to-recycle bag paper with very good printability is replacing plastic bags manufactured using fossil fuels and is helping our customers to achieve their sustainability targets.

Sappi Stockstadt GmbH products are sold in Germany, Europe and in many countries overseas.

An introduction to Sappi Stockstadt

A pulp and paper mill for 120 years.
In 1898, at the time of the industrial revolution, the then “Aschaffenburger Zellstoffwerk” - AZ for short - commenced production in Stockstadt. Back then, as it is today, Stockstadt was ideally located as a production site. This was due to its central position for customers, its location at the centre of the regions of Spessart, Odenwald and Taunus which are rich in beechwood, and its position on the banks of the Main river which provides sufficient volumes of the process water required. In 1900, the mill recorded annual production of more than 10,000 t of pulp and was considered to be one of Europe‘s largest pulp mills. Much has changed since then. Today this volume is equivalent to less than one month’s production for Stockstadt!

AZ passed through several stages of development before becoming Sappi Stockstadt GmbH, a modern, integrated pulp and paper mill with its own power plant and waste water treatment plant, high environmental protection standards and an excellent level of health and safety. Thanks to ongoing technical as well as technological improvements, Sappi Stockstadt GmbH has changed significantly in the information technology age. Today, the company employs a workforce of approximately 730 employees at the site, together with approximately 45 trainees, and is able to produce up to 160,000 t of pulp and 450,000 t of paper per year!

Since 2009, the mill has been part of the South African Sappi corporate group - one of the global market leaders in coated fine paper. With its production of high-quality fine papers, Sappi Stockstadt forms part of the core activity of the group.

In 2018, we are able to look back on 120 years of pulp production and 55 years of paper production at the Stockstadt site. Since 1996, Sappi Biotech GmbH (formerly the Chemische Werke Zell-Wildshausen) has been operating a state-of-the-art lignin plant at the Stockstadt site. Lignin not only makes materials stable, but due to its dispersing and fluidifying properties and its ability to bind fibres, it can be used in a range of different ways. It is also described as a

History

1970 PWA Grafische Papiere

1898
Pulp mill established by the Aschaffenburger Zellstoffwerke

1920
Construction of a transformer building, a boiler house and a 92 m high chimney

1950
Production of the one-millionth tonne of pulp

1963/64
Start of a new era: Paper production begins on PM1

1970
Commissioning of second Paper machine (PM2)

1991
Production of the five-millionth tonne of paper

1974
Production of the one-millionth tonne of paper

"green binding agent" and can be used to manufacture products normally produced using petrochemicals, such as in the construction sector as an admixture in cement and concrete.

Pulp production

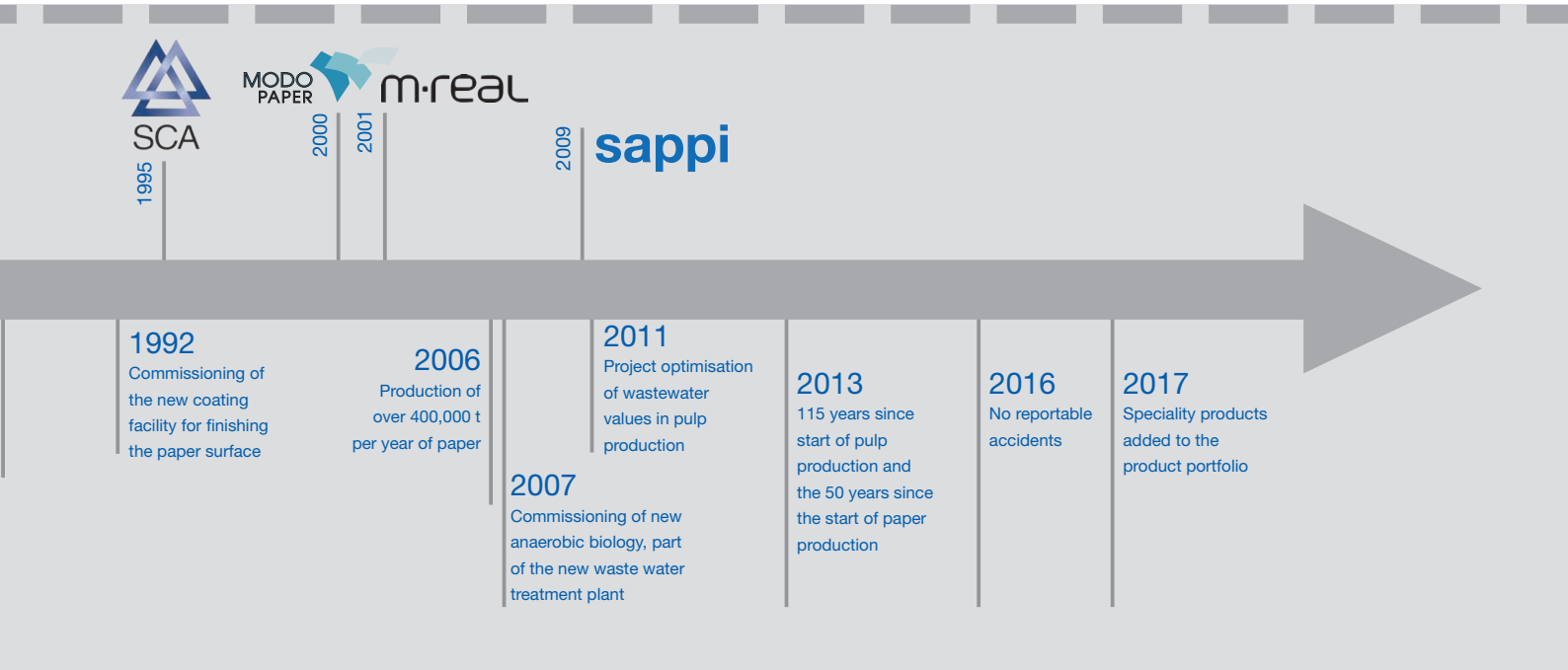
The basis for the production of pulp is wood, which is delivered daily by truck and by rail. In the cutting plant, the logs are cut to 150 cm, the bark is removed in the debarking drum and the logs are then processed into wood chips. The wood chips arrive in six digesters via silos. After several hours of cooking, the wood is chemically digested and the cellulose fibres are separated from the wood composite. This reduces the lignified substances - the lignin - to 3%. Most of the internal pulp is pumped directly to the two paper machines. The remainder is dried, cut into sheets and sold.

Paper production

A mixture consisting of short fibres (internal pulp) and long fibres (external pulp) is used on the two paper machines according to the grade. The water is extracted from this mixture of pulp fibres, fillers and water between two screens and the mixture is consequently fed over the press and dryer section. The paper web is dried using steam heated cylinders. Paper machine PM1 produces uncoated fine paper; paper machine PM2 produces coating base paper which is transported to the coating machine. The flat fibrous structure of the base paper is covered with a pigment layer in one even application. The paper is thus given a matte or gloss surface in two operational steps.

Converting department

In this department the paper reels are cut and packed. For sheet paper production, so-called 'sheeters' are used which cut the paper rolls into sheets according to the individual customer's requirements. The sheets of paper are then stacked onto pallets or packed into smaller packaging units.
In the dispatch warehouse, both the paper reels as well as the sheet pallets are prepared for dispatch to the customer.



Environmental policy and organisation

Sustainable development is a necessity for Sappi and starts with each individual employee. The following approach for supporting the sustainable development of all business divisions has been integrated within Sappi's operational activities for a long time.

- We work to promote the health and safety of all employees
- We minimise environmental impact and supply recyclable products based on renewable raw materials
- We seek to be profitable in a sustainable manner and to achieve a high level of customer satisfaction through innovation and acting ethically

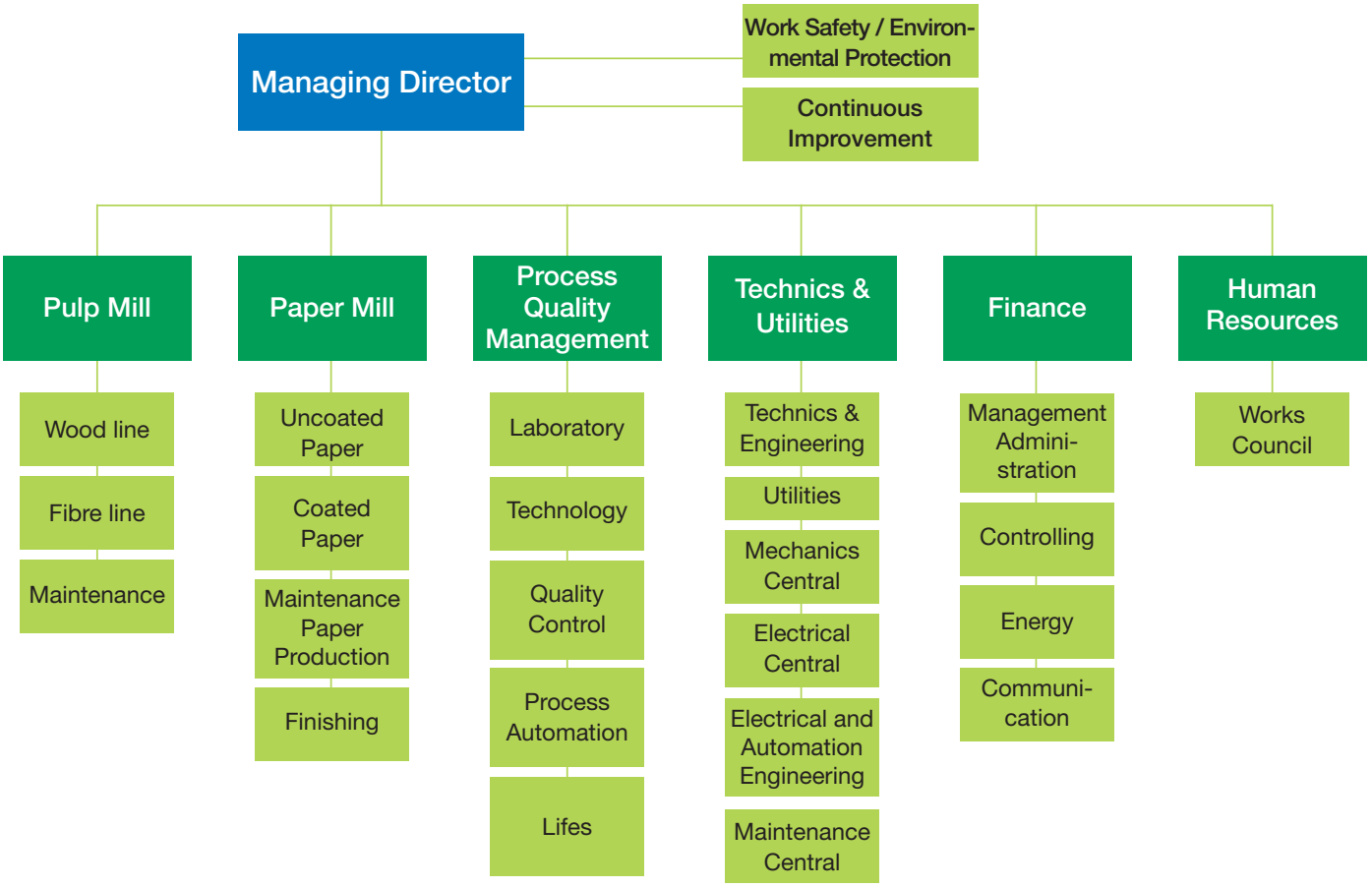
Sappi Europe has selected the "eco-effective" approach to implement these visions and this is integrated as part of our commercial and decision-making and activities. We want to achieve our goals effectively and efficiently with minimal impact on the environment. This is the way we work, as a workforce and as a company.

Our sustainability targets for Sappi Europa for 2020 include reducing specific CO_2 emissions by 5% compared to 2014 and over 70% use of certified fibres in our products.

These targets are implemented using specific measures in the annual Sappi Stockstadt GmbH environmental programmes.

The managing director of Sappi Stockstadt GmbH has overall responsibility for the Stockstadt Mill. The managing director delegates this responsibility in accordance with the simplified organisational structure presented. The management team and all employees are supported in an advisory capacity by management representatives and other experts who are appointed in the areas of work safety, quality, environment and energy.

The effectiveness of the management system is regularly assessed in management committees by the managing director. The elements upon which this review is based include data and key figures from all divisions, reports from the representatives and the results of internal and external audits. Regular evaluation of operating figures is used to monitor success and forms the basis of the management review. This is also essential for determining the measures and programs required for the continual improvement of environmental performance.



We are all responsible for the environment

We view the preservation of our environment as the basis of our work. As part of this, not only do we adhere to regulatory requirements, but we are also guided by social norms and values which are continually developing. We are all responsible for protecting the environment. We therefore ensure that our employees have the necessary competencies and abilities to fulfil their responsibility to our environment.

We are constantly improving our environmental performance

In the development of our products, processes and working methods, we pay particular attention to optimising energy efficiency and improving our environmental balance sheets. Our aim in this respect is to continually reduce adverse regional and global environmental impact arising from our production activity. When developing our production processes, we therefore factor in use of the best available technology.

We manage raw materials and products responsibly

We conserve resources through the economical use of raw materials and energy. A particular concern for us in this respect is the safe use of chemicals. Any waste produced is primarily to be used as raw materials or used to generate energy.

We produce recyclable products which largely consist of the renewable raw material of wood. We therefore support the independent certification of sustainable forest management and continually strive to increase the percentage of certified wood in our products.

We have a policy of transparent communication

We are open and honest in the communication of our environmental performance. We publish environmentally-relevant information about our products and production processes and participate actively in dialogue about our environmental protection activities.

Resource efficiency

Sustainable forestry

Wood is a valuable and sustainable raw material and is the basis for the production of pulp and paper. The constant supply of wood for ensuring uninterrupted production is of critical importance to the Stockstadt Mill. As a company specialising in the processing of wood and pulp, we accept and have a particular responsibility to society, woodland and the environment.

In the 2017 financial year, almost 88 percent of all wood processed in Stockstadt originated from forest managed in accordance with FSC® (20.4 % of all wood) or PEFC™ (67.2 % of all wood) guidelines. Sappi is confident that both certification organisations - PEFC™ and FSC® - ensure that the raw materials used come from sustainable and responsibly managed sources. Around 12% of the wood is not covered by the above and for this Sappi uses extensive risk assessment to verify that the fundamental standards in forestry management are adhered to, i.e. that this wood originates from so-called “controlled sources”. This includes, for example, the protection of the legal rights and common law rights of the local population as well as the non-use of genetically modified trees.

proNARO GmbH, a joint undertaking of Sappi Europe and Essity, is responsible for the procurement of wood for the mill.

We purchase wood on principle only from forests which are sustainably managed on the basis of national forestry legislation and preferably from suppliers who are able to demonstrate forest or Chain of Custody certification in accordance with PEFC™ or FSC®. Both Sappi Stockstadt GmbH as well as proNARO GmbH are certified in accordance with both Chain of Custody (CoC) systems. This enables us to close the chain from the forest to the end product. The certifications of our suppliers, of the wood procurement and of Sappi Stockstadt GmbH are audited on an annual basis by independent qualified and accredited certifiers. The results of this audit are published. We exclude the following sources in the case of origins of wood which are not certified:

- **Illegally harvested wood**
- **Wood from regions in which forestry is managed in breach of traditional or civil basic rights**
- **Wood from forests, the particular conservation value of which is endangered by forestry management**
- **Wood taken from the transformation of natural woodland into plantations or for non-forestry uses**
- **Wood from forests which are planted with genetically modified tree species**

We receive wood from our suppliers according to defined quality requirements, such as thinning wood, weak wood and crown wood. In doing so, we are actively contributing to the development of stable, effective forests.

Most of the wood purchased by us originates from regional forestry areas located around our mill. We use specialised, experienced and local logistics partners for the professional transport of our wood. These are partners who can guarantee the best possible and most efficient transport from the forest into the mill being supplied. In doing so we are contributing to climate protection and are supporting the regional economy. In cases where greater distances are involved, we use rail - an environmentally friendly means of transport - whenever possible.

In terms of the bought-in quality of pulp for paper production, the same standards are demanded of suppliers as for wood procurement in order that our customers receive a high-quality end product from Sappi Stockstadt GmbH which has been sustainably produced.

Energy management

As a manufacturer of fine papers and pulp, Sappi Stockstadt is part of one of the most energy intensive industries. For this reason, the production team is constantly focused on energy consumption. Special energy screens which display current energy consumption are used by operators in the paper and pulp production as well as the power plant employees. These values are compared with the target values for the type of production concerned so that the operators can intervene immediately if energy consumption rises.

Sappi Stockstadt had very detailed energy consumption tracking based on key operating figures in place long before the introduction of the energy management system (since 2003). The objective of saving 2% of the previous year's energy consumption was achieved, and actually significantly exceeded, virtually continuously up to and including 2015. Because the easily-achievable potential energy savings have now been largely exhausted, greater investment is now needed in order to continue to save energy to this extent. Even if the team from Sappi Stockstadt had paid close attention to every single kWh of power and every tonne of steam, they could not have fully matched the savings targets of the two previous years. However, even so, the saving for the 2017 financial year was 0.3% despite damage to a turbine and the special operation associated with this.

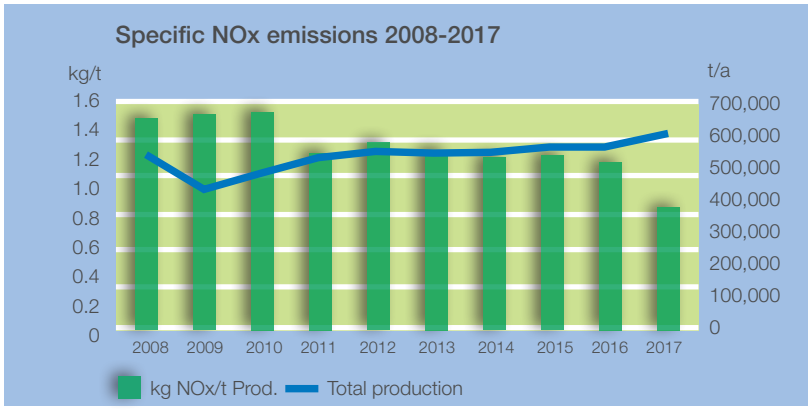
In addition to the many small optimisations achieved operationally within the scope of activities of the plant operator, investment measures were also able to prove their worth in terms of savings: e.g. the replacement of the infra-red emitter on paper machine 2 as well as the use of an energy saving grinding set for waste process. Auxiliary power units for a system, such as hydraulics and blowers, are switched off when not in use in accordance with check lists. Existing offers must be assessed in every respect in terms of energy use, even in the procurement of systems and system parts such as reserve motors. Ultimately, a power consumer is not just used for a short period but in most cases for several decades. This means that energy consumption should also be considered over the lifetime of the unit.

A significant improvement in energy efficiency is currently anticipated in terms of the power plant. A new steam turbine in the project planning phase. Due to a greater level of efficiency, a significantly higher level of internal power generation from bioenergy will be possible.

Emissions

Sappi Stockstadt operates its own cogeneration plant for power generation which currently has three boilers. The highly efficient power plant is run using the so-called combined heat and power process which means steam is used for both supplying heat as well as generating power. Both fossil fuels (coal and gas) as well as biogenic fuels (lignin from the pulp production, biogas, and dry material from the wastewater treatment plant) are used to produce energy in the three boilers. Emissions are created from the combustion in the boiler which comprise mainly carbon monoxide and dioxide, nitrogen dioxide and sulphur dioxide as well as dust. European and in some cases even stricter national regulations demand costly flue gas cleaning before these emissions are permitted to be discharged via the two chimneys. Dust extraction systems (electrostatic air filter), a flue gas desulphurization system, low NOx burners and a denitrification plant (a so-called SNCR system) ensure that emissions are cleaned in accordance with state-of-the-art technology. Compliance with air quality limit values is monitored continually using online measurement equipment.

Over recent years, one priority in the optimisation of the emission situation had been the further reduction of the NOx emissions in the coal boiler. It was necessary to comply with stricter limit values. Further temperature measurement systems were installed in the boiler for this purpose in order that the optimum temperature range for the metering of the reducing agent in day-to-day operation is found. The trend in NOx emissions over recent years shows that our efforts have been successful.



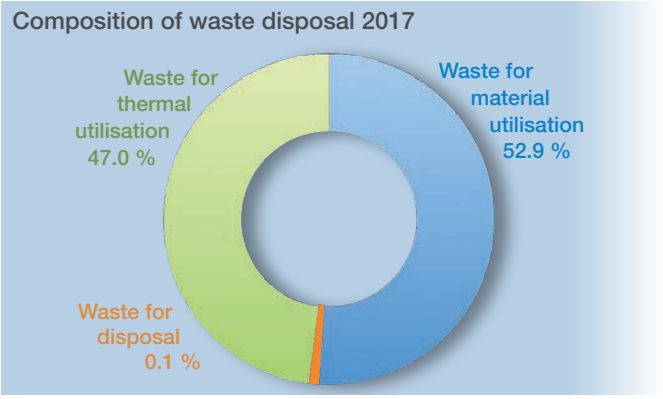
Waste management

In the 2017 financial year, a total of 75,278 t of waste was accumulated for disposal. This is equivalent to a volume of 206 t per day or, as a specific value, 128.7 t per tonne produced (of paper and pulp). This value also includes wood by-products from pulp production which represent a recyclable material and generate revenue in the market.

Both the overall volume of waste as well as the specific value have risen slightly compared to the previous year. This is due in particular to an increased level of wood fines and fly ash accumulation. For quality reasons a higher proportion of wood fines were screened out of the process for pulp production in 2017. In the power plant, a new type of coal with a higher level of ash content had to be used due to the availability of coal in the global market.

In order to be able to respond more flexibly to grades of coal in future, a project has been launched with the objective of switching the static air separators of the coal mills to dynamic air separators. This measure enables a more effective response to different types of coal and ensures that an even grain size arrived at as a result of the milling and sorting and taken into the combustion chamber. This impact positively on the combustion, emissions and the ash content.

A key environmental factor in the context of waste management is transporting waste. Short transportation distances to users reduces emissions and transport costs. It is therefore important to Sappi Stockstadt to work together with certified, local and regional disposal contractors. When conducting audits of disposal contractors,



we look for a high level of work safety in addition to issues such as disposal reliability and transparency. Our business partners are frequently in our mill on a daily basis and therefore able to have a positive influence on work safety.

It has been possible to further reduce the volumes for disposal for other waste streams in the mill. Compared to 2016, there was a 9% reduction in the the sewage sludge volumes from water treatment and wastewater cleaning. It was also possible to increase the return of calcium carbonate from the waste water into the production process.

The utilisation rate has remained at a constantly high level. It has been possible to utilise 99% of waste. Only 0.1% by weight has been disposed of in landfill or in specialist waste disposal facilities.

Water

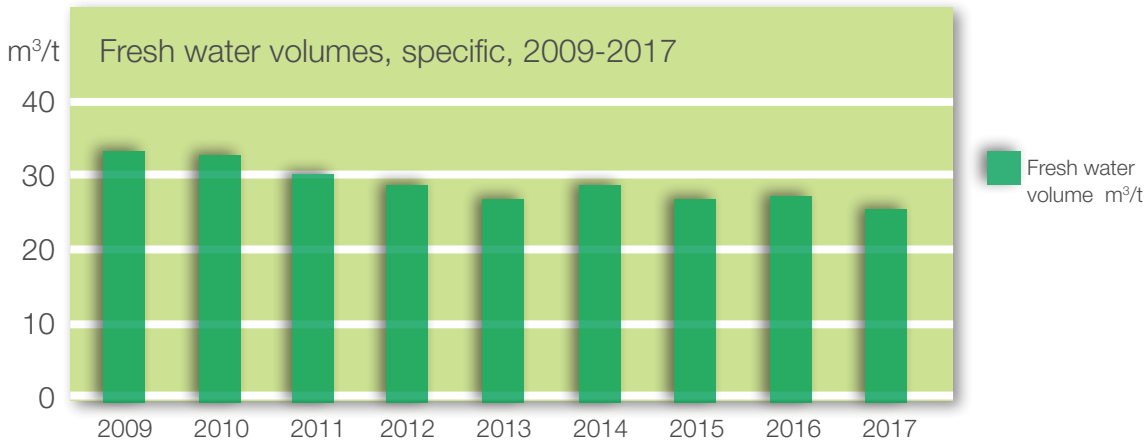
The pulp and paper manufacturing process is unimaginable today without water. Water is used as a solvent, a means of transport and as a coolant, as well as in the form of steam for supplying energy to the mill. It is no surprise, therefore, that energy and water management are given a high priority at the Stockstadt Mill.

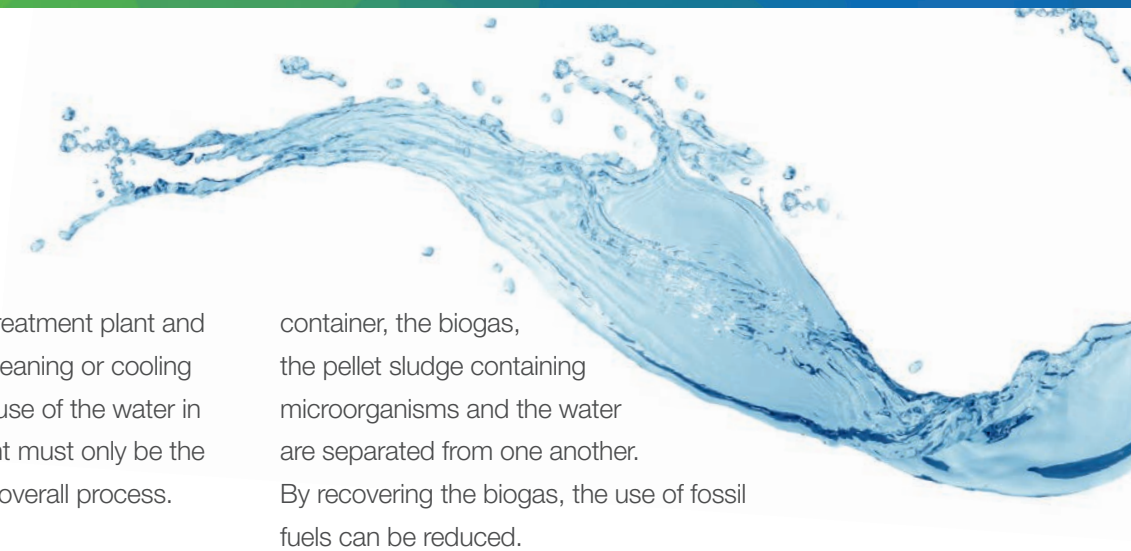
Since the construction of the wastewater treatment plants in 1994, significant investment and a great deal of expertise has been committed to the ongoing modernisation of the plant. The last major project for reducing the wastewater load had been in planning since 2013 and went into operation in November 2014. A project with relevance to wastewater is currently being implemented in pulp production. In this case, new modified washing filters will insure more efficient pulp washing and will reduce the COD load in a wastewater stream

Water treatment

An average of more than 40,000 cubic metres of water are taken from the river Main each day and very carefully treated for the different uses for which it is required. The first cleaning stage ensures that suspended sediment is removed from the Main river water using two filter lines. For subsequent use in the power plant, the water must be softened and deionised in order to prevent calcification and corrosion.

Depending on the level of contamination, the water is reused several times in production areas for different purposes before being fed into the highly efficient wastewater treatment plant for cleaning. For example, in the pulp washing process, the least contaminated wastewater from the last washing stage is reused in the first washing stage and uncontaminated cooling water is circulated within its own loops and reused. Proactive water management is necessary for reducing the use of freshwater and costs and for preserving the environment. The changes in specific freshwater volumes per tonne produced (pulp and paper together) over recent years shows the positive development. In this context, the thermal management of water streams in the plant is becoming increasingly important for keeping the temperature of the wastewater





low for the wastewater treatment plant and to recover energy. The cleaning or cooling of wastewater following use of the water in the wastewater treatment must only be the final step required in the overall process.

Wastewater treatment

The wastewater streams are separated, depending on where they come from, into three different wastewater treatment lines in order that cleaning can be optimised according to the level of contamination.

Some of the wastewater from the pulp production is initially pretreated in the high-load moving bed facility consisting of three 1000 cubic metre chambers. The concrete basins are filled up to around 40% with specialist substrate material which floats in the pools. Bacteria lives on the substrate material and eats the harmful suspended matter in the water and cleans it in the process. The oxygen required is fed in via a special air distribution system.

Another wastewater stream from pulp production originates from the thermal wastewater treatment and is anaerobically treated (oxygen free). This stage is highly complex. It reduces pollutants in the wastewater using microorganisms and generates biogas as a metabolic product which is used for thermal recovery in the cogeneration plant.

The facility consists mainly of a steel container with a capacity of approximately 1,300 m^3. Via an inflow distribution system in the floor, the wastewater flows through the container from bottom to top. In the upper area of the container, the biogas, the pellet sludge containing microorganisms and the water are separated from one another. By recovering the biogas, the use of fossil fuels can be reduced.

In the subsequent treatment stages (oxygenation and secondary purification) pollutants are further reduced and biomass is retained in the system.

The wastewater from paper production is cleaned following a preliminary purification stage in an anaerobic, biological fixed bed filter. The wastewater containing calcium carbonate from the coating machine is prepared by keeping the different wastewater streams separated in such a way that the maximum amount of carbonate can be reused in production. In this way the wastewater is discharged to the wastewater treatment plant, a raw material is recovered for production and less waste is disposed of.

The wastewater from the power plant is largely contaminated with minerals, it is cleaned in a chemical and physical treatment plant and then fed to the river Main.

All treated wastewater is monitored using a complex online measurement system, additional laboratory measurements and by means of measurements conducted by the authorities. This is then ultimately fed back to the main.

Transport & logistics

Sophisticated logistics are required to supply a company operating around the clock and almost 365 days a year with raw materials and supplies. In total, more than 650,000 t of different materials and products have to find their way into the mill and, on average, each working day around 1,800 t of paper is supplied to customers.

As a result of its central location in Germany and in Europe, and of its excellent connections to the motorway, railway and the river

Main, the location of Stockstadt offers all that is needed to ensure effective logistics. Materials required in large volumes are supplied by barge (pulp, calcium carbonate, coal). Chemicals used in larger quantities in production, or which present a heightened level of risk when being transported, are supplied by rail.

Wood is delivered almost entirely by truck because the regional availability of the beechwood used means that the transport distances involved are comparatively short. The average distance travelled for transporting our wood is approximately 150 kilometres.

Sappi Stockstadt GmbH supplies paper globally to its customers, however the German and European market represents one of the main areas. Due to the size of most of the orders, our products are mainly delivered by truck.

However, it is not only external transport which impacts on the environment. Internal transfers, business travel and the travel to work and back home of our employees causes emissions which we therefore wish to minimise as much as possible. This means that small-scale environmental protection measures such as the provision of electric vehicles as company cars, support for the “cycle to work” scheme and the opportunity to lease a company bicycle also minimise environmental impact and increase the awareness of environmental protection among our employees.

Environmental Balance Sheet 2017

Raw materials and supplies

Energy		
Total fuels	**1,697**	**GWh**
Specific fuels	**2.9**	**MWh/prod. t**
Natural gas, energy generation	198	GWh
Natural gas, process	48	GWh
Total natural gas	246	GWh
Heavy fuel oil (2,8%)	70	GWh
Coal	788	GWh
Fossil Fuels	**1,105**	**GWh**
Black liquor	565	GWh
Residues	15	GWh
Biogas	13	GWh
Biogenic fuels	**592**	**GWh**
Proportion of renewable energies	**34.9**	**%**
Spec. biogenic fuels	**1.01**	**MWh/prod. t**
External generation	130	GWh
of which physical purchase	93	GWh
of which EEG standby power	37	GWh
Land use	**375,000**	**m²**
Total freshwater	15,171,630	m³
of which mains water	78,449	m³
Specific freshwater	**25.9**	**m3/prod. t**
Total wood purchases	**279,091**	**t atro**
Proportion of round wood	211,637	t atro
Proportion of wood chip	67,454	t atro
PEFC certified	67.2	%
FSC certified	20.4	%
Total certified	87.6	%
Total pulp	**252,714**	**t atro**
Own pulp (integration)	118,954	t atro
Third-party pulp	133,760	t atro
Chemicals		
Pigments and fillers	158,327	t atro
Binders	5,807	t atro
Other chemicals	50,450	t atro
Fuels		
Petrol	3,289	l
Diesel	246,933	l
Auto gas	1,080	kg
Packaging materials (not including pallets and sleeves)	**1,522**	**t**

Production

Freshwater preparation

Cogeneration plant.
Production of Electricity/steam/ compressed air

Pulp production
Wood yield
2.03 t wood/t pulp

Own pulp (Integration)

Total energy consumption	**2052**	**GWh**
Spec. tot. energy consumption	**3.51**	**MWh/prod. t**
Total steam consumption	1,938,621	t
Total compressed air consumption	87,930	1.000 Nm³

Waste products and emissions

Residues		
Total residues	**75,278**	t
Specific residues	**128.7**	**kg/prod. t**
Total utilisation	75,231	t
Total thermal utilisation	35,408	t
of which therm. utilisation int. / ext.	3,927	t / 31,482 t
Recycling	10,984	t
Total disposal	65.4	t
of which disposal to landfill	16.3	t
Hazardous waste	100.9	t
Specific haz. waste	0.17	kg/prod. t
Utilisation ratio	99.9	%
Disposal ratio	0.1	%
Hazardous waste ratio	0.1	%

Internal generation

Electricity	262	GWh
Steam	1,938,621	t
Compressed air	87,930	1,000 Nm³

Wastewater treatment

118,954 t atro

Paper production

Pulp yield
0.56 t pulp / t paper

Total electricity consumption	**355**	**GWh**
Specific electricity consumption	**0.61**	**MWh/ prod. t**
of which electricity consumption, process	279	GWh
of which internal consumption, power plant	76	GWh

Products

Pulp production	137,428	t
of which sales	4,667	t
PEFC certified	67.2	%
FSC certified	20.4	%
Total paper	**447,606**	**t**
Uncoated paper	224,091	t
Coated paper	223,515	t
PEFC certified	40.5	%
FSC certified	22.3	%
Total production	585,034	t
Black liquor sales	**17,289**	**t**

Energy

Electricity fed to EEG	37	GWh
Electricity fed to third parties	0.61	GWh

Emissions into atmosphere

	absolute	specific
SO_2	382.9 t	0.65 kg/prod. t
NO_x	490.5 t	0.84 kg/prod. t
Staub	40.9 t	0.07 kg/prod. t
CO_2 fossil	329,413 t	563 kg/prod. t
CO_2 biogen	181,037 t	309 kg/prod. t

Wastewater

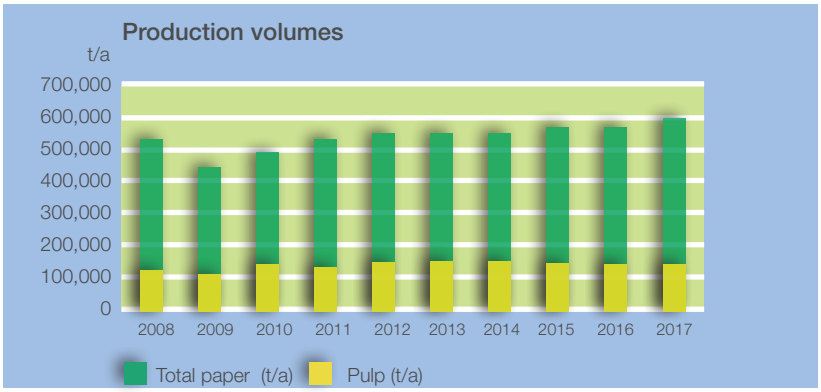
	absolute		specific	
Total quantities	13,898,983	m³	23.8	m³/prod. t
COD	3,627	t	6.2	kg/prod. t
BOD_5	247.2	t	0.42	kg/prod. t
Total nitrogen	68.4	t	0.12	kg/prod. t
Total phosphorus	10.8	t	0.018	kg/prod. t
Solids	210.4	t	0.36	kg/prod. t
AOX	0.88	t	0.001	kg/prod. t

Key environmental data 2008 - 2017

Each Sappi Stockstadt financial year begins in October and ends in September which means that a comparable annual period is considered. However, for accounting purposes, the 2017 financial year included a total of 53 full calendar weeks which means that over this period there were a total of 371 production days. The environmental data, however, is recorded over a period of 365 days which means that slight deviations of around 1 to 2 % percent occur when generating specific figures.

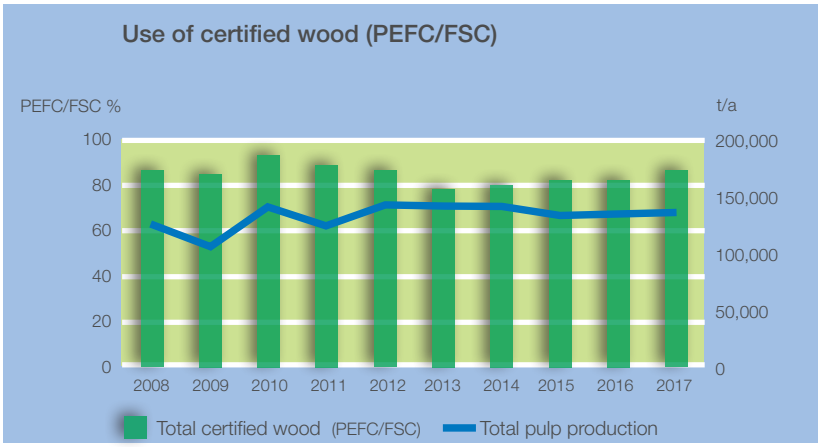
Production:

There was a slight increase in the production quantities of paper and pulp compared to BY2016. When calculated over 365 days, a production record was also achieved in paper production. Pulp production remained virtually constant.



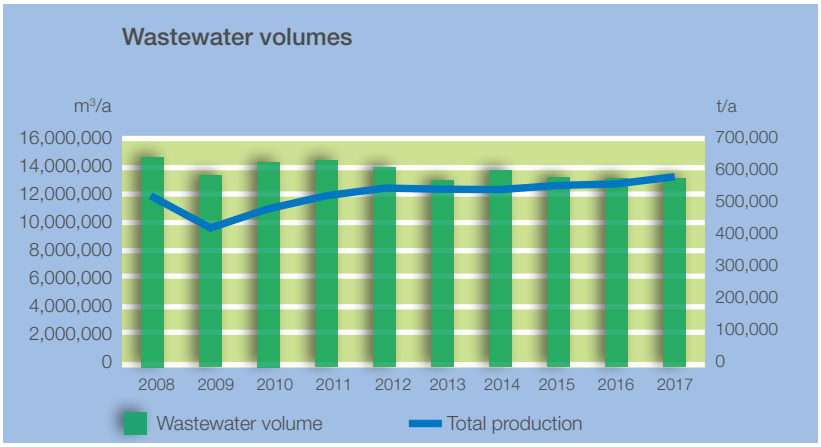
Wood procurement/sustainable forest management:

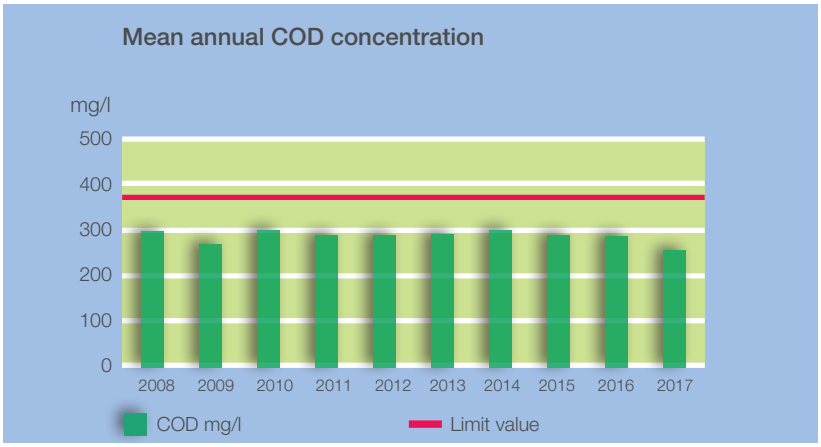
The procurement goal of 70% certified wood for pulp generation was significantly exceeded in the 2017 financial year with an overall total of 87.6%. Over the last 5 financial years, there has been a steady rise and a proportion of certified wood. The proportion of PEFC wood was 67.2%, while the proportion of FSC wood was 20.4%. The proportion of non-certified wood complies with the FSC standard for controlled wood sources. This is verified by means of a risk management system.



Wastewater:

The trend in the reduction of absolute and specific wastewater volumes has continued. There also continues to be a positive trend in the average COD concentrations in total waste water.





Waste:

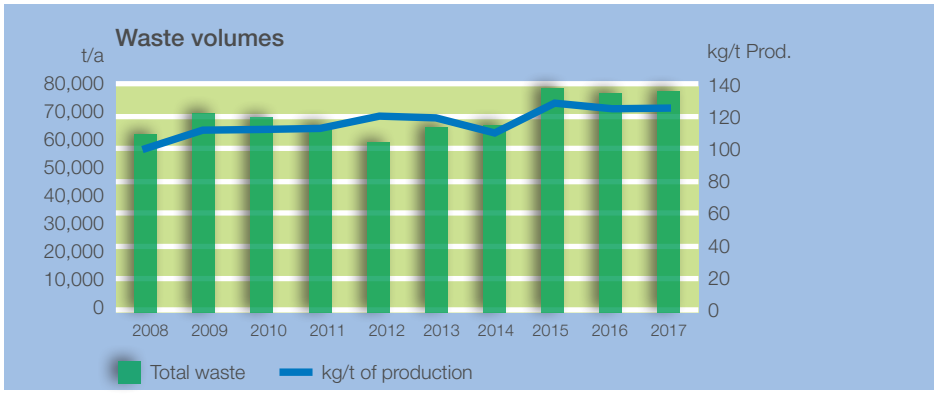
There has been a slight rise in total waste volumes and in specific waste data. This is largely due to the additional discharge wood fines in the pulp production wood line and an increased accumulation of fly ash in the cogeneration plant.

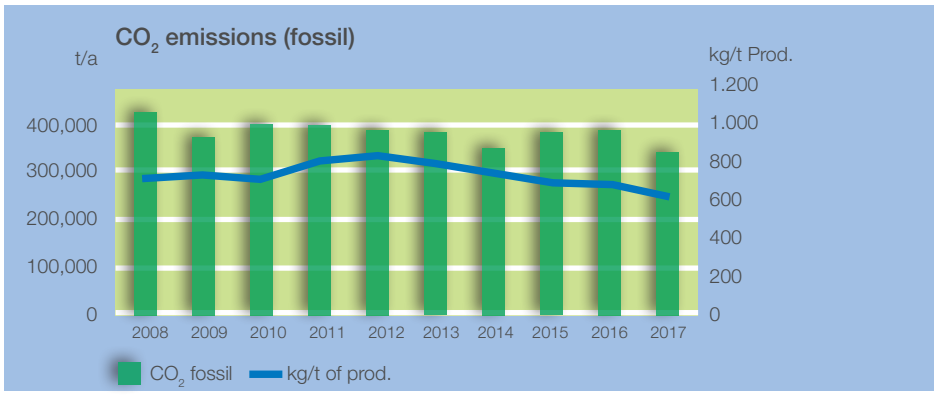
Energy / emissions into atmosphere:

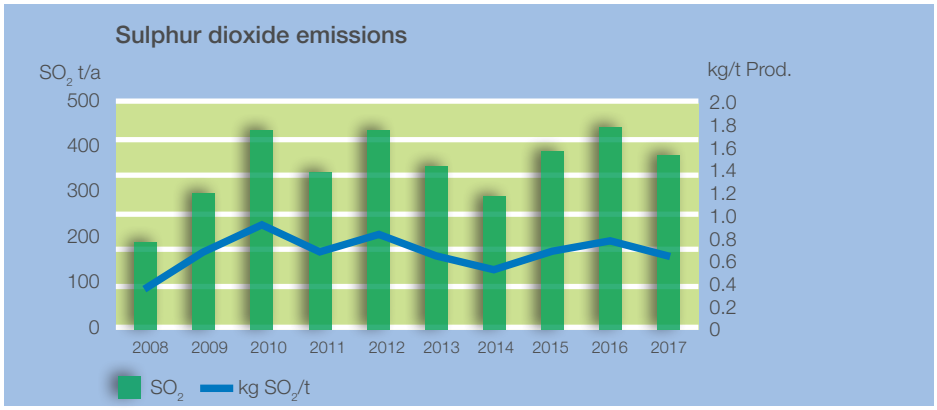
From an environmental and commercial perspective, the reduction of fossil CO_2 emissions remains an important goal. As an energy intensive company, Sappi Stockstadt is subject to carbon offsetting and must purchase certificates for fossil CO_2.

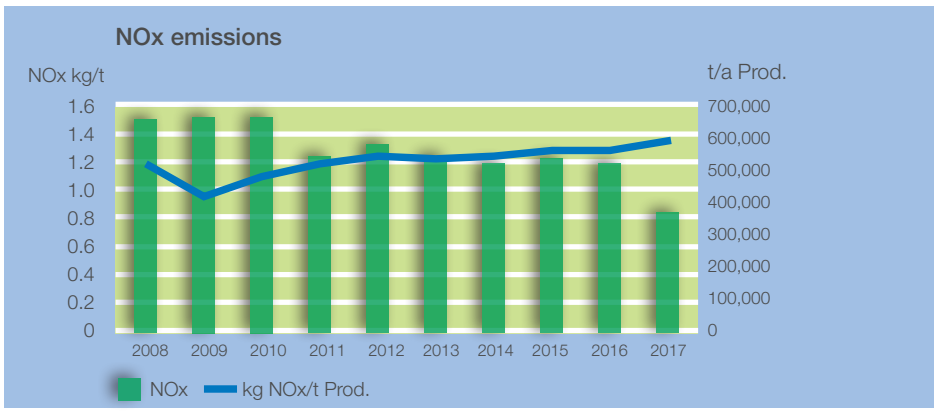
Sulphur dioxide emissions are mainly dependent on the use of sulphur dioxide in pulp production for the digester house and on the use of waste lye for energy generation. Sappi Stockstadt focuses on making maximum use of black liquor as a biogenic fuel for heat and energy generation to use our raw materials efficiently.

The absolute and specific nitric oxide emissions have reduced continually since 2012. An important step in terms of optimisation in this respect has been the SNCR plant optimisation measures for reducing nitric oxide in boiler nine which have been running intensively since 2015.









Focus on people

Neighbours

Sappi Stockstadt, established long ago as a pulp factory “on the green meadow” outside the gates of the market town of Stockstadt, is now surrounded by the residents of Stockstadt and Mainaschaff and has developed into an industrial company of regional and national significance. This brings advantages and disadvantages both for residents as well as for employees. For example, a large number of employment and training positions are available, the distances for employees to travel to work are short - and are ideally covered in a CO_2 neutral manner on foot or by bicycle, and there is a high level of added value and purchasing power in the region.

The fact that an industrial operation can accept its responsibilities to environmental protection but may also have adverse impacts on the neighbourhood is undisputed. Due to the proximity to residential developments, noise pollution and nuisance odours cannot be ruled out in every situation.

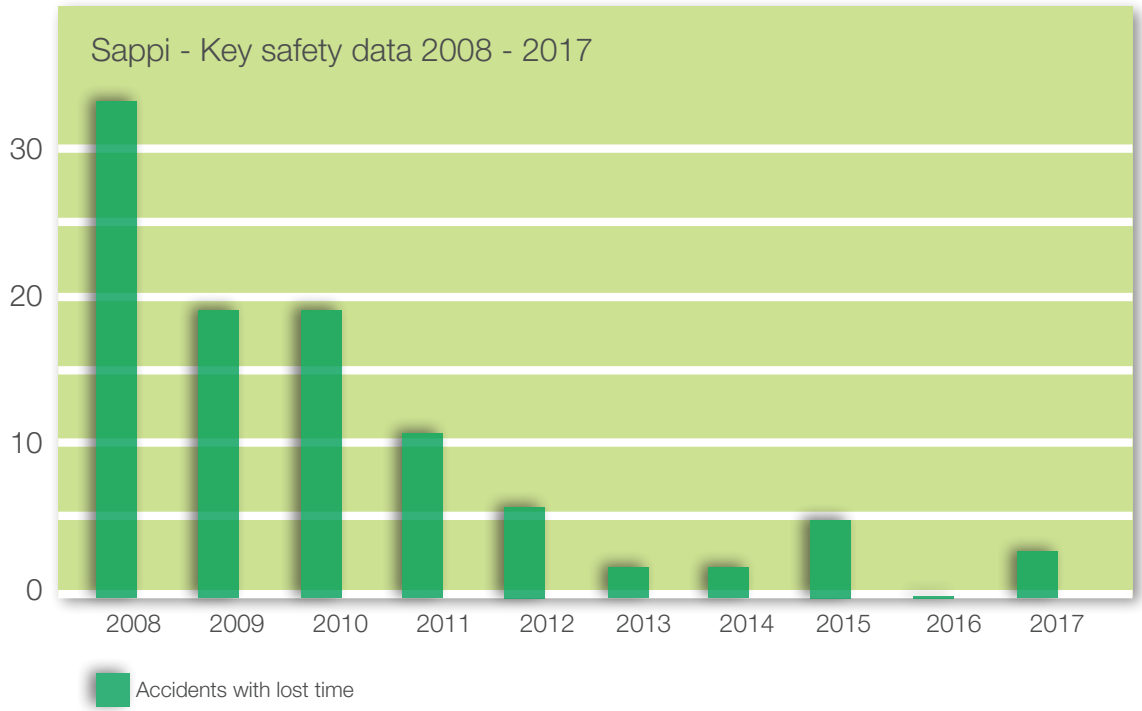
All complaints are taken very seriously, documented and dealt with. Over the past financial year - as was the case in the previous year - a total of 22 complaints were received which included 12 complaints relating to noise and 9 relating to odours. Over the past financial year, noise complaints in particular led to in-depth discussions with residents also involving the market town community and the district office. The result of this was a noise reduction plan to be implemented over the next five years. Some noise protection measures have already been implemented in 2017 and more are planned for 2018, for example a noise protection wall for the pulp production cutting plant.

It is important to us to share information openly and on a regular basis with our stakeholder groups. In the resident magazine entitled “Your neighbour”, Sappi Stockstadt reports twice a year on all relevant issues such as the noise protection measures referred to, investments, employment and training positions and large-scale mill shut-downs. We are of course delighted to receive any feedback. Our environmental officer, Martin Schilha is happy to respond to any issues relating to our environmental themes.

Work safety

Our vision for work safety is referred to as “0 Accidents”. As part of this we have focused in recent years on accidents involving one or more lost working days (LTI = Lost Time Incident). Over the last 10 years we‘ve been able to reduce these accidents by 90%. An outstanding year for work safety at the site was the 2016 financial year in which no LTI was recorded. In terms of working hours worked, we remain at over 1,000,000 hours without an accident involving lost time - proof that visions can become reality if you are prepared to work hard enough to make them happen.

However, maintaining the level achieved is much harder, as was shown unfortunately by the figures for 2017 and by a serious accident during that year. Due to the extremely low LTI figures since 2013, we are now directing our attention increasingly to incidents which require medical attention and first aid as well as near-misses and dangerous situations. The recognition of dangerous situations in particular, and the reporting of near misses both represent potential valuable approaches to the on-going improvement of work safety at the Stockstadt site. Ensuring the safety of your colleague, a member of staff from an external company or a visitor - in addition to ensuring your own safety - will result in an even safer working environment for all. Our motto for the financial year 2017 is therefore “Deal with it!”. We address this in a number of ways including a humorous safety show at our annual global safety awareness day.



Mill security

Sappi Stockstadt stresses the importance of customer satisfaction and seeks to be a reliable partner for customers, suppliers and public authorities.

The aspect of security in the supply chain is becoming increasingly important for our customers and, in particular, for our overseas customers. This is why Sappi Stockstadt GmbH decided to apply for site certification under the AEO safety standard. AEO status as a so-called “Authorized Economic Operator” was achieved in February 2015 when the AEO certificate was issued.

Preparations for the certification included a comprehensive security analysis of the mill site, the relevant internal processes and of the collaboration with our business partners.

In addition to customs simplifications, the certification also brings other benefits as a result of process optimisation and internal monitoring mechanisms. These benefits include

- **Improved collaboration with business partners**
- **Fewer security incidents**
- **Fewer shipping delays**
- **Fewer unexplained losses of goods**

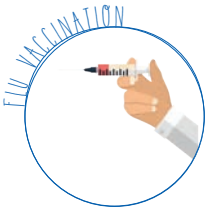
The status of authorised economic operator is ultimately regarded as a seal of quality within the economy which brings with it competitive advantages.

Health management

Occupational health and safety are key issues in the Sappi business. In addition to using measures involving provision of information, regular work safety training and examinations by company doctors to help prevent accidents at work and occupational illnesses, a huge emphasis is placed on company-based health promotion. The aim is to use targeted measures to improve health and avoid illness. We run the following health campaigns:

Flu vaccination

The annual flu vaccination in the autumn has been normal practice in the company for many years.



Workplace ergonomics

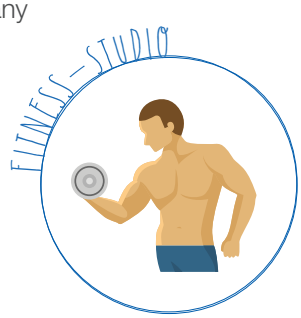
The connection between back disorders and extended periods of incorrect sitting in the office on office furniture and in front of screens which are not correctly adjusted to one another has been scientifically proven. In order to address this, Sappi provides all employees with the opportunity to have the arrangement of their office workplace checked by an expert for optimum ergonomics.

Bicycle leasing

Since June 2016, there has been the option with Sappi of leasing a bicycle or e-bike using so-called defined salary contributions. Besides increasing physical and mental well-being by cycling on a regular basis, this method also allows employees to save on the costs of purchasing the bicycle. The aim of the campaign is that employees will use the bicycle on an increasingly regular basis instead of using the car.

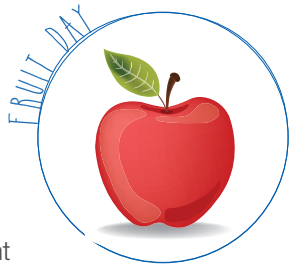
Fitness studio

For several years now, company employees have been able to use the local fitness Studio "Fitness Level" as much as they like and for a reduced membership fee.



Fruit day

An employee survey revealed that most employees would be delighted to see fresh fruit provided in the workplace. Every second Monday has been declared a fruit day for some time now. When entering or leaving the mill, employees have the chance to take an item of fruit with them.



5-minute exercises

Colleagues in the shipping department requested health support in the form of instruction on daily exercises in the workplace. A trained physiotherapist visited the department on five days. Work stopped for approximately 10 minutes in order to complete simple stretching and movement exercises to reduce the pressure on the spine.

The aim of different campaigns is to put in place motivation for health awareness, to make our employees aware of this and to support them in this in a number of ways. Additional measures are being planned

Targets & programmes

Environmental targets 2017

Area / process	Targets	Measures	Status
Mill / air pollution control	External complaints < 5	• Analysis of complaints from BY2016 and development of technical and organisational measures • Launch of the noise reduction programme	22 complaints (12 noise, 9 odour) Noise reduction program running; to continue in BY2018
Mill / air pollution control	Reduction of CO_2 emissions	• Plan to replace the fuel oil used in boilers 6 and 9 with natural gas - continued from BY2016 • Increased proportion of bioenergy in energy generation to 39% through an optimal use of black liquor in boiler 6	Planning and costing completed Target not fully achieved
Mill / air pollution control	Compliance with emission values	• Planning of NOx emissions reductions, boiler 6 • Optimised operations of the SNCR facility, boiler 9	The NOx limit has been met since Feb 2017 as result of optimisations to boiler 9.
Mill / environmental marketing	Eco label for paper	• Detailed evaluation of conditions for uncoated paper certification EU-Flower • Certification if requirements can be met	Certification currently not possible due to specific CO_2 emissions
Mill / environmental marketing	Product certification for uncoated paper (regional label)	• Prepare certification and find partner for a pilot project	Preparations completed with “Holz von hier”. Currently no partner for a pilot project
Mill / risk and emergency management	Improvement of emergency management	• Implementation of refresher training for crisis team members • Implementation of three emergency drills • Installation of new digital alarm communication server (DAKS)	Completed; field training exercise with training leader in December; continuation of refresher training in BY2018 DAKS installed and alarms have been tested.
Mill / waste management	Reduction of residues from wastewater treatment plant by 3% compared to BY2016	• Analysis of residue data for BY2016 • Planning and implementation of measures	Target achieved; residues reduced by 9%.
Mill / waste management	Find new utilisation options for boiler 9 fly ash	• Check alternative utilisation options together with users • Cost/benefit analysis for REACH registration	No alternative utilisation in cement production possible due to organic compounds in the ash being too high.
Mill / hazardous materials/hazardous goods management	Improvement of internal organisation and increase in training level of the employees responsible	• Consistent labelling of unloading sites, securing of external rail area against unauthorised access, implementation of three monitoring dates and training.	Completed
Mill / freshwater use	Reduce specific energy consumption by 1% compared to BY2016	• Implementation of additional savings measures in the production areas	Reduction of 4.8%
Pulp production / sustainable forestry	Procurement of PECF-/ FSC-certified wood > 70%	• Wood procurement contracts with certified suppliers and monthly balance sheet	87.6% certified wood
Pulp production/ wastewater	20% reduction of COD concentration in pulp production stream	• Implementation of wastewater load project “Blue Water” to reduce COD concentration in pulp production stream	New installation of washing filter 503 implemented. Continuation of the project in BY2018.
Paper production, pulp production and supply / freshwater / wastewater	Compliance with the new COD limit values (concentration < 372 mg/l and freight <17.5 t/d)	• Monitoring of wastewater loads • Regular discussions of current values in the wastewater work group	All official control levels were met. 6 daily average values for exceeded (=1.6%)
Pulp production, paper production, mill supply and disposal, technics & engineering	Reduction in specific energy consumption by 2% compared to BY2016	• Development of energy saving plan, implementation of energy efficiency measures in production departments and detailed analysis and monthly report on energy costs	A 0.3% reduction of specific energy consumption was achieved.

Environmental targets 2018

Area / process	Targets	Measures	Termine
Mill / air pollution control	External complaints < 5	• Analysis of complaints and development of technical and organisational measures • Setup of the noise protection wall for cutting plant (max. 63 dB(A)), daytime operation • Plan noise protection measures for the power plant • Noise protection projects in line with priorities in all departments (reduction of night values by 2 dB(A)) • Annual reporting, internal/external	09/2018
Mill / air pollution control	Reduction of CO_2 emissions	• Plan to replace the fuel oil used in boilers 6 and 9 with natural gas - continued from BY2017 • Increased proportion of bioenergy in energy generation to 39% in boiler 6	09/2018
Mill / air pollution control	Compliance with emission values	• Plans for the operation of the black liquor boiler following 30/09/2018 (Implementation in line with BREF requirements)	09/2018
Mill / risk and emergency management	Improvement of emergency management	• Implementation of refresher training for crisis team members • Implementation of three emergency drills	09/2018
Mill / legal compliance	Centralised EDP-supported documentation of the legal compliance process	• Installation and commissioning of GEORG legal compliance software	09/2018
Mill / waste management	Reduction of specific waste volumes for external disposal (Not including wood by-products) by 1% compared to BY2017	• Testing and implementation of reduction measures in all departments • Testing of alternative utilisation and disposal methods	09/2018
Mill / freshwater use	Reduce specific water consumption by 1% compared to BY2017	• Implementation of additional savings measures in the production areas	09/2018
Mill / hazardous substances	Implementation of new requirements for the management of substances hazardous to water	• Implementation of internal training • Implementation of new requirements and documentation in a process description	09/2018
Pulp production / sustainable forest management	Procurement of PECF-/FSC-certified wood > 70%	• Wood procurement contracts with certified suppliers and monthly balance sheets	09/2018
Pulp production/ wastewater	20% reduction of COD concentration in pulp production stream	• Implementation of wastewater load project “Blue Water” to reduce COD concentration in pulp production stream	09/2018
Mill / Wastewater	Compliance with the new COD limits (concentration and freight) < 372 mg/l and < 17,5 t/a	• Monitoring of wastewater loads • Regular discussions of current values in the wastewater work group	09/2018
Mill / energy efficiency	Reduction of specific energy consumption by 2% compared to BY2017 according to priorities (electricity, gas, steam)	• Development of energy savings plan • Implementation of energy efficiency measures in production departments in the context of the energy management system • Detailed analysis and monthly report on energy costs	09/2018
Mill / energy efficiency	Proportion of bio energy for steam generation ≥ 39%	• Optimal use of bioenergy in boilers 6 and 9	09/2018
Mill / energy efficiency	Increase efficiency of power generation	• Planning for new turbine 9	09/2018

Glossary

Anaerobic wastewater treatment
Term used to describe the chemical reaction which occurs with an absence of oxygen.

AEO certification
“Authorized Economic Operator”; AEO certification sets requirements for security in the supply chain and provides customs simplifications in return

BOD (biological oxygen demand)
A measure for the amount of oxygen necessary to break down organic material present in a sample of water.

BAT Best Available Techniques
The concept of ‘best available techniques’ is an EU-wide central control scheme within the law governing the authorisation of installations. The terms is equivalent to the concept of state-of-the-art technology used in Germany. In this case, ‘techniques’ refers “both to the technology used as well as the way the installation is designed, built, maintained operated and decommissioned.” The best available techniques are developed for each sector concerned as part of a process of information sharing between member states, industry and environmental associations. They are stipulated in BAT instruction sheets and regularly updated.

Calcium Carbonate
Term used to refer to chalk or limestone. Important product in paper manufacturing as a filler or as a pigment in the coating colour.

COD Chemical Oxygen Demand
A measure for the amount of oxygen necessary for the full chemical decomposition of organic matter present in wastewater.

Evaporation facility
Facility for evaporating and reducing the cooking acids used during pulp production. The black liquor created is used for heating purposes and is part of the chemicals recovery plant.

EMAS
Abbreviation for “Eco-Management and Audit Scheme“. European system for environment management and environmental auditing

Emission
Solid, liquid or gaseous substances; heat, noise or vibrations which escape into the environment from a facility (e.g. pollutant emissions, heat emissions or noise emissions)

FSC Forest Stewardship Council
The Forest Stewardship Council is an international non-governmental, none-profit-making organisation. The council created the first system for the certification of sustainable forestry, operates the system and continues to develop it.

GSAD Global Safety Awareness Day
The purpose of the annual safety day which is celebrated globally at all Sappi sites is to heighten the awareness of all staff employees and business partners with respect to the theme of work safety and health protection. This is achieved

jointly using organised campaigns for people to come and look at or take part in.

Wood-free paper

Paper produced exclusively from pulp. The term “wood-free” actually means “free of lignin”.

Immission

Air pollution, noise, vibrations and similar environmental influences which impact on people animals or plants.

Lignin / lignosulfonates

An element of wood which is released from the wood during pulping (cooking process). The cooking acids used are evaporated and burned to generate energy and for chemical recovery. Excess lignin is sold and used, for example, in the concrete industry as a concrete plasticiser.

Sustainability

Fundamental principle of forestry management. It requires that no more wood is cut down than can be regrown.

Uncoated paper

General term for wood-free paper or paper containing wood which, in contrast to coated paper, is not finished by having a coating applied.

PEFC Programme for the Endorsement of Forest Certification Schemes

International forest certification system, the aim of which is to ensure the continual improvement of sustainable forest management while guaranteeing ecological social and economic standards. The FSC is an alternative certification system

RGD Flue Gas Desulphurisation Plant

Plant for removing sulphur compounds from power plant emissions

SNCR plant

A flue gas cleaning plant which minimises the nitrite oxide in emissions by means of selective non- catalytic reduction

REACH Registration, Evaluation, Authorization and Restriction of Chemicals

REACH is used to describe a regulation which is directly applicable in the EU and is entitled “Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency” It regulates the registration, evaluation authorisation and restriction of chemicals with the aim of filling gaps in information relating to the majority of chemicals.

TCF Totally Chlorine Free

The bleaching process for pulp in which no chemicals containing chlorine are used.

Pulp

Fibrous material obtained from plant based fibre as raw materials by means of chemical pulping.

Certification

The undersigned, Bernhard Zechel, EMAS Environmental Surveyor, registration number D-V-0214, accredited or licensed for Group 17.1:
Manufacture of wood and pulp, paper, card and cardboard, confirms that he has surveyed whether the site of the organization

Sappi Stockstadt GmbH
with registration number D-103-00012,

complies with all requirements of Regulation (EC) No 1221/2009 of the European Parliament and of the Council of Europe dated 25 November 2009 on the voluntary participation by organisations in a Community eco-management and audit scheme (EMAS), amended by regulation (EU) 2017/1505 of 28 August 2017, as stated in the organisation's environmental statement.

On signing it is confirmed that the survey and validation have been carried out in full compliance with the requirements of Regulation (EC) No. 1221/2009; the results of the survey and validation confirm that there is no evidence of non-compliance with applicable environmental regulations and that the data and information of the Environmental Statement for the site provide a reliable, credible and truthful representation of all activities of the site within the scope specified in the Environmental Statement.

This Statement is not equivalent to an EMAS registration.
EMAS registration can only be performed by a responsible body in accordance with Regulation (EC) No. 1221/2009. This Statement may not be used as an independent basis for public information.

Munich, 21 November 2017

B. Zechel

Bernhard Zechel, Grad. Engineer, Environmental Surveyor, D-V-0214

Environmental contact

Do you have any questions regarding Environmental Protection at Sappi Stockstadt? If so, please call us!

You can contact the environmental officer Martin Schilha directly on 06027 420 528

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Our EMAS brochure
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Magno Natural 250 g/m² (Cover)
and 150 g/m² (interior part)
from Sappi Stockstadt.

The next update of the
environmental statement
will be published
in Spring 2019.

sappi