DREWSEN SPEZIALPAPIERE

environmental report 2020

DREWSEN SPEZIALPAPIERE GmbH & Co. KG

DREWSEN SPEZIALPAPIERE

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LEGAL NOTICE

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DREWSEN SPEZIALPAPIERE

RESPONSIBILITY TO THE ENVIRONMENT

We are committed to environmental protection. We are conscious that long-term business success can only be achieved through a responsible and sustainable environmental policy. We are committed to building this awareness among our employees.
We ensure, through DIN EN ISO 14001, 9001 and 50001 certifications, that both our environmental measures and our quality and energy management are planned, implemented and continuously improved. With our integrated management system, we ensure that the legal requirements and regulatory obligations are fulfilled and environmental objectives are continuously further developed. This forms a key element of the company's forward-looking business policy.

In our values and guiding principles, we have committed to taking responsibility for our actions and making careful use of resources. This commitment runs through all divisions of our company. Our focus is on:

- **Products** which are environmentally friendly. We are working hard on the development of papers which are able to replace plastic products. This is not about stigmatisation of plastic products in general, but rather about the sustainable replacement of plastic with paper where this is practical and possible.
- **Production and ancillary facilities** (power plant, wastewater treatment, etc.) in which the environmental impact is minimised and the best possible precautions are taken in occupational and plant safety.
- **Employees** who work together with awareness of the environment and safety to meet the objectives.
- **Management** who exemplify the environmental policy.
- **Customers and authorities** with whom we work together in partnership and with whom we are in constant dialogue.

This path is supported and aided by our shareholders and the DREWSEN advisory board.

In this report, we would like to present our contribution to environmental protection and provide an overview of how multilaterally ecological thinking is embedded in DREWSEN SPEZIALPAPIERE as a company.
Because nature is our most valuable commodity and it needs to be protected!

Dr. Matthias Rauhut
Managing Director

Henning Meier
QM/ Environment/ Safety Manager

ABOUT DREWSEN SPEZIALPAPIERE GMBH & CO. KG

We are a manufacturer of uncoated, woodfree speciality papers. As a traditional family company, we have developed into an effective producer of high-quality speciality papers since our founding in 1538. More than 400 employees produce 165,000 tonnes of speciality papers on three paper machines every year at the production and administration site in Lachendorf, Germany.

DREWSEN assumes a prominent position in many market sectors. Our success is based on our consistently high-quality products which are specifically tailored to the customer's requirements and on our individual and competent customer service.

DREWSEN is constantly improving its range of products through high levels of innovation, an in-house development department and an eye on the changing requirements for paper today. At present, it covers three product groups:

- PROSECURA Security papers
- PROTECH Technical papers
- PROFINO Printing & packaging papers

At the beginning of 2019, an independent project unit with the name of 'Sustainable Paper Solutions' was established. Here, we bring together our sales and development competence and develop practical degradable alternatives to plastic products under the theme of 'paper instead of plastic'.



In-house research and development department

In addition to the continuous further development of our papers, our activities also include the development of entirely new types of paper.
Product development takes place in close collaboration with our customers in development partnerships. In addition, we also consider possible utilizations which go beyond the traditional areas of application for paper and in which paper as a material can replace or supplement other materials or create an entirely new application.
We thus achieve solutions which are tailored to customer, market and process requirements which generally make an increase in efficiency for customers and a more environmentally friendly application possible.

Employees

Our employees are our most important asset. That's why we further their skills and awareness of environmental protection in all divisions of the company through information as well as ongoing education and training. Protecting our employees against negative environmental factors is also an integral part of our company.

Our company representatives advise and support the employees as well as the senior management on all environmental issues. We also maintain a trust-based and constructive collaboration with our works council.

MILESTONES FOR THE ENVIRONMENT | ENVIRONMENTAL INDICATORS

Energy

We generate high efficiency steam and electricity through cogeneration with our gas and steam turbine power plant. Thank to continuous improvement of our production process, we have been able to reduce our specific energy consumption and the specific CO2 emissions in the last 5 years.
We are resolutely pursuing our path of continuous improvement and strive to get started in renewable energy generation (solar power) in the coming years.

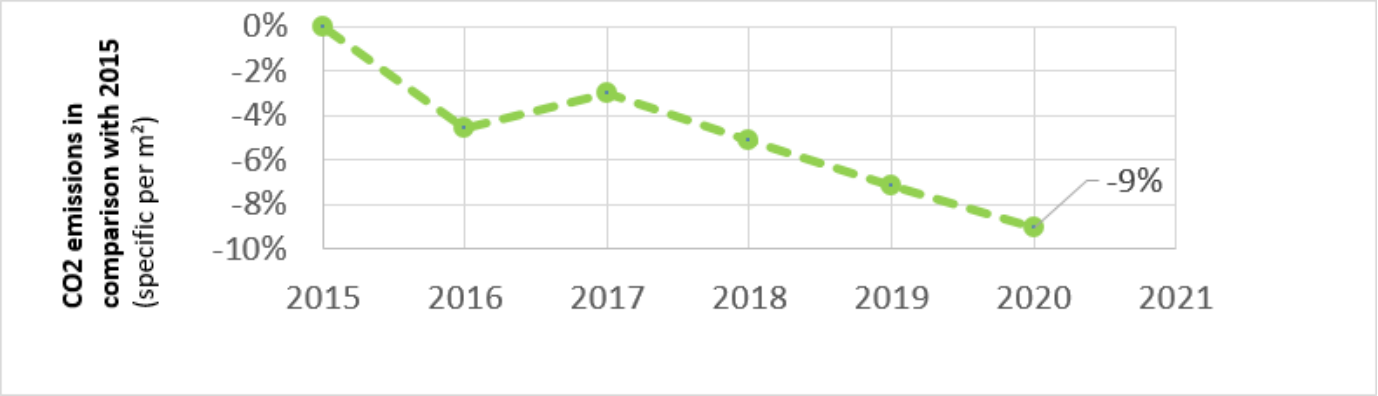
On the topic of energy, we invest not only in our employees' qualification in efficient and sparing use of the valuable resources of raw materials, energy and water, but also in our technological processes and systems technology.

As a result, we are able to reduce the impacts on our natural environment associated with the generation, procurement and use of energy, water and raw materials.

Our extensive **investments in technology and systems technology** in recent years…

2016	Expansion of heat recovery to include process water temperature control PM1 / PM2	**Reduced steam consumption**
	Coolant-operated air-conditioning systems converted to water-cooled systems	**Energy savings through use of waste heat** **Elimination of environmentally harmful coolants**
2017	Intelligent control unit for pulp treatment (refiner control unit) introduced on PM5	**Electricity savings**
	Visualisation of the key process parameters and efficiency indicators in order to detect discrepancies more quickly and be able to intervene with corrections	**'Reject' reduction**
	Conversion of more air-conditioning systems from coolant to water	
2018	Use of efficient fans instead of water ring pumps for vacuum generation on PM2	**Electricity savings** **Reduction of water consumption**
	Installation of high-efficiency, reduced air consumption screen flow regulators on PM5	**Reduced compressed air consumption** **Electricity savings**
2019	Installation of new press technology on PM5 (shoe press)	**Reduced steam consumption** **Increase in machine efficiency**
	Installation of additional heat exchanger for waste heat utilisation in our power plant (gas and steam system)	**Reduction of the power plant's energy consumption**

In recent years, we have been able to reduce the specific CO2 emissions by 9% through the investments mentioned and many other small measures:



The internal and external audits within the context of certification of our energy management system in accordance with ISO 50001 support us here and show us more potential for improvements. Possible corrective measures are implemented on the basis of the audit reports.
Our energy management system, certified in accordance with ISO 50001 is a key part of the systematic improvement of energy efficiency.

External energy balance							
		2015	**2016**	**2017**	**2018**	**2019**	**2020**
Natural gas supply	**(MWh)**	440,070	458,198	482,418	462,958	472,360	461,812
Electricity supply	**(MWh)**	4,873	12,125	3,867	7,301	8,375	8,160
Fuels	**(MWh)**	445	468	474	436	404	265
Electricity output	**(MWh)**	2,299	2,121	3,361	2,057	2,142	3,010
Energy consumption	**(MWh)**	443,089	468,670	483,398	468,638	478,997	467,227

Water

Water is an essential resource for paper production and is also required for the cooling of the machines. Water is used in production as a thinner and as a means of transport. High dilution of the fibre, filler and additive mixture is a prerequisite for high-quality and even paper.

We are continuously working on reducing our water consumption. The less water is used, the less energy, chemicals and thermal energy are used. Process water is reused multiple times and only a fraction of the water ends up as wastewater and has to be replaced with fresh water.

We use a modern and high-performance system with mechanical preliminary purification, a biological treatment stage and a multi-stage biofilter system for treatment of the wastewater produced. As a result, it is possible to comply with the required discharge values and therefore not to compromise the water quality (GK2) of the river Lachte, despite the wide range of products.

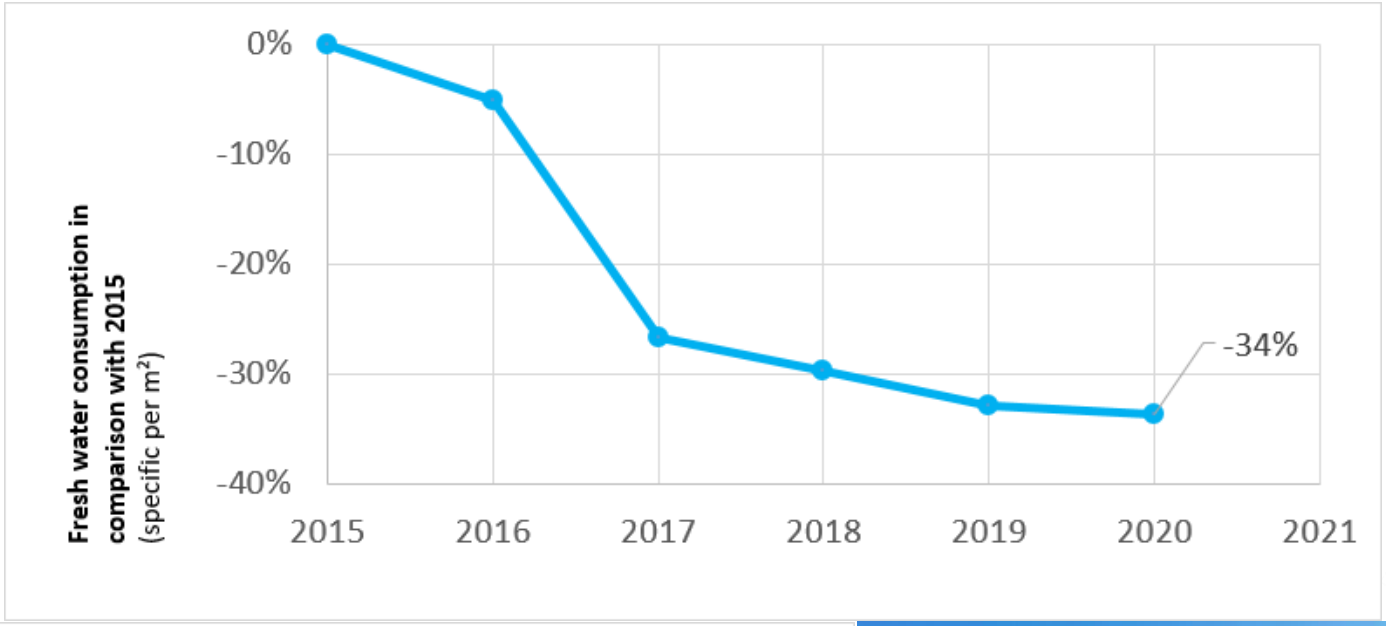
Fresh water

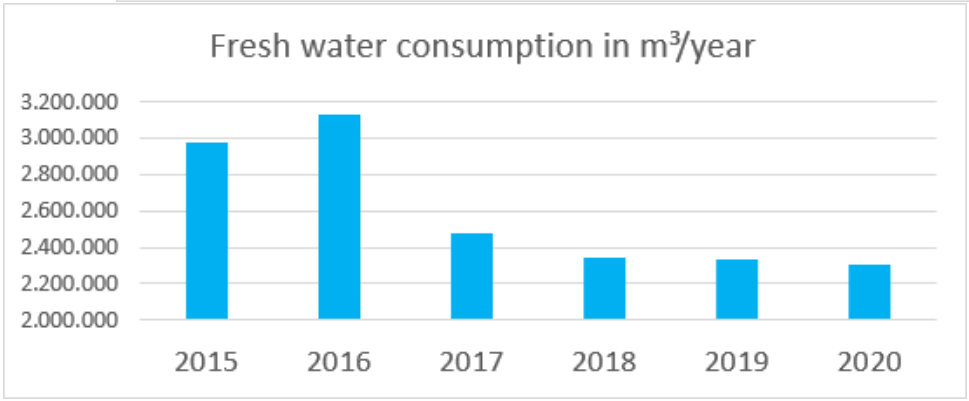
Our ambitious product portfolio does not work without any fresh water at all. It is therefore necessary to add evaporated water during the drying of the paper at a minimum.

Consumption beyond this, for system cooling among other things, can be and is permanently reduced at DREWSEN through the following technical, technological and organisational measures:

- Reuse of process water
- Use of efficient and economical cleaning systems to reduce spray, which are required for continuous cleaning of screens and filters in the paper machine
- Technological improvement of mechanical dewatering
- Use of the warm cooling water in the production systems
- Reduction of steam consumption for direct heating
- Daily evaluation (traffic light system) of the water consumption → rapid reaction in the event of discrepancies

Through these and other measures, we have succeeded in reducing the specific water consumption by 34% in the last 5 years. We are very proud of this and consider this development to be very positive.





Wastewater

Fresh water savings were accompanied in parallel by the reduction of wastewater volumes and pollution.
The more consistent and increased use of process water and our employees' dedication has made an essential contribution to this, independently from the investments in system technology mentioned above and the use of more efficient technology.

The online measurement systems installed and the visualisation of the key parameters (incl. the forecasting tool) allow us to react to discrepancies immediately and in good time.

Strict external inspections of our wastewater volumes and quality by the Lower Saxony Water Management, Coastal Defence and Nature Conservation Agency (NLWKN) show that we are succeeding in protecting the 'Lachte' habitat.

This is also very clear to see in an 'old inhabitant' who lives in the Lachte, which flows through the factory site: it is the freshwater pearl mussel, a species of mussel which is very rare in Germany and considered an endangered species. Its population here – as the only one in the entirety of Europe – recorded an upward trend.

Raw and auxiliary materials

We use the following raw and auxiliary materials in paper production:

Category	Products	Use
Pulp	Fresh fibre pulp (short and long fibre)	• as a raw material for paper production
Pigments	Kaolin, ground calcium carbonate (GCC), titanium dioxide, talcum	• as a mineral filler for the space between the fibres (reduction of fibre consumption) • as coating pigments for application to the surface of the paper to improve the optical properties of the paper
Binding agents	Starches obtained from corn, potatoes or peas	• ensure that the coating pigments adhere to the surface • maintain the surface strength of the paper
Other auxiliary materials	Retention and fixing agents and anti-foaming agents	• for keeping the processes clean • ensure good running and dewatering properties • for formation of the paper web (fibres and fine particles • are retained on the screen)
	Slime inhibitors, e.g. biocides	• required for the almost entirely closed water circuits • to prevent microbe growth in pipes and tanks
	Optical whiteners, colourants, complexing agents	• chemicals required for processes and products • Amount is in the per thousand range

Waste

We use the raw materials which we use extremely effectively through consistent internal recycling. Largely closing the water circuits ensures that the wastewater is largely free from residual paper fibres.

In addition to the avoidance of waste, recycling of the 'waste' which does occur is a priority.
Thus, in our company:

- The production waste produced is 100% used in production through the scrap paper systems
- The 'getter' residue is 100% used for energy generation in a biogas plant

The waste which is then still produced is collected separately and put into the waste cycle economy through approved and certified waste management facilities.

Our waste manager monitors and regularly reviews:

- The disposal channel for our waste to the end, and
- The disposal company we use.

Waste types and volumes							
		2015	**2016**	**2017**	**2018**	**2019**	**2020**
Hazardous waste	**(t)**	56	34	33	16	33	52
Non-hazardous waste	**(t)**	4,692	4,394	4,338	4,671	5,115	5,690
Waste for disposal	**(t)**	312	268	330	218	270	208
Waste for recycling	**(t)**	4,436	4,159	4,041	4,469	4,877	5,533

MEASURES FOR THE PROMOTION AND PROTECTION OF BIODIVERSITY

In recent years, DREWSEN has developed and implemented various measures for the promotion and protection of biodiversity (biological diversity), such as:

- Facade greening on the administration buildings
- Planting and cultivation of willows as a structural element in the bank area of the Lachte

- Planting of the area on the boundary of the factory site with hedges
- Creation of a nesting opportunity for peregrine falcons (in a decommissioned power plant chimney)

The shareholders also waived part of the water rights for one of the State of Lower Saxony's most important renaturation projects 'aquatic permeability of the Lachte' and thus cleared the path for the renaturation of a more than 450-year-old weir.

ENVIRONMENTAL ASPECTS

The production of paper is predominantly associated with environmental pollution of the air and water. DREWSEN recognises and regularly evaluates this pollution as direct and indirect environmental aspects.

The following table provides an overview of the key environmental aspects and their effect on the environment.

Key environmental aspects	Biggest environmental impact	Measures
Pulp	Use of the forest ecosystem (biodiversity, products and services in connection with the forest ecosystems, land use aspects); indirect environmental impacts by pulp producers/suppliers.	Use of wood from certified sustainable forestry (chain of custody certificate); evaluation of pulp suppliers.
Chemicals	Indirect environmental impact by suppliers; pollutant impact as a result of improper handling and storage.	Supplier qualification, impact on certified environment management system, selection of environmentally friendly products.
Fossil fuels and purchased electricity	Use of finite resources, impact on climate.	Cogeneration, efficient use of energy, Review of possibilities for the use of renewable fuels and other climate-neutral sources of energy.
Air emissions from the company's own power plant	Acidification of the soil (NOX, SO2), air pollution (dust), impact on climate (CO2 from fossil fuels).	Compliance with thresholds*, continuous improvement, use of renewable fuels and natural gas, emissions trading.
Emissions in the water	Eutrophication (nitrogen, phosphorus), oxygen demand (COD, BOD).	Compliance with thresholds*, continuous improvement.
Waste	Use of landfills and communal waste incineration plants. Indirect environmental impacts by third parties during recycling of waste, e.g. pollution owing to improper handling and storage.	Reaching or maintaining a high recycling rate through 'avoidance, recovery and recycling', qualification of third parties/suppliers, audits

Key environmental aspects	Biggest environmental impact	Measures
Noise	Negative impacts for employees and local residents.	Compliance with thresholds*, continuous improvement.
Odours	Negative impacts for local residents.	Optimal operation of production and wastewater treatment plants.
Transportation	Indirect environmental impact (energy consumption, air emissions, noise).	Choice of means of transport, shipment in pairs with full truck loads wherever possible, electric forklift trucks, increased use of rail transport.
Products	Environmentally friendly disposal after use.	Recycling (waste paper processing).
Soil	Acidification of the soil owing to air and water emissions, possible pollutant impact owing to chemicals and consumables containing oil.	Best practices for the storage and handling of chemicals; compliance with the permissible thresholds and legal provisions.

* The thresholds which are defined in our official authorisations with regard to wastewater loads, air emissions and noise serve to prevent significant environmental impacts.

Environmentally relevant focuses are the areas of water, air, energy and pollution through noise and odour. Here, emergency situations such as accidents, leaks and fires for which there is emergency planning in place are considered in addition to normal conditions.

DEWSEN's environmental objectives also cover all other areas in which DREWSEN currently sees a need for action or potential for improvement.

PRODUCTION

Approx. 165,000 tonnes of speciality papers
are produced annually
on three paper machines.

Product use

Variety group	Typical areas of application
Security papers	Tax stamps, documents and certificates, postage stamps, passports & visas, cheques
Packaging papers	Packaging applications in the food and sachet sector
High-Speed-Inkjet papers	Industrial high-speed Inkjet systems with variable data printing
Publishing papers	Package inserts, books, maps, calendars, exercise books, pads & office equipment
Business papers	Invoices, account statements, transfers, mailings, office equipment, high-quality envelopes
Specialities	Prescriptions, tickets, lottery, tabulating card board, coloured papers, etc.
Technical papers	Base papers for various processing & coating purposes, adhesive label papers

End of product service life

Our products have no significant environmental impacts. They are environmentally friendly, i.e. recyclable, compostable and biodegradable and meet the criteria for most internationally recognised eco labels. DREWSEN offers customers the options of choosing from multiple different eco labels. The criteria for these labels may either relate to a specific part of the supply chain (e.g. the FSC® and PEFC™ forest certification logos) or may cover multiple criteria – from the raw materials through the production process to the end product (e.g. the EU eco label).

All certificates can be seen on our website at https://www.drewsen.com/en/the-company/quality-environment-energy.

CUSTOMER HEALTH AND SAFETY

As a manufacturer and supplier of packaging papers and papers for food applications, we are aware of our responsibility to the entire food chain. From purchasing through development and production to sales, we are working on the implementation of preventive programmes which are based on the principles of the HACCP concept. We are committed to compliance with the requirements of Regulation (EC) 852/2004 and, for drinking straw production, also with the FSSC 22000 requirements.

We have a certified management system for food safety (HACCP, FSSC 22000).

We comply with the legal requirements and with the requirements agreed with customers with regard to food safety and deliver products which can be used without hesitation in the field of food packaging and as drinking straws.

We have a product recall system, the effectiveness of which is reviewed at regular intervals. Reports are drawn up to this end.

To date, we have not had any hygiene incidents which resulted in a product recall.