GORIČANE

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ENVIRONMENTAL REPORT 2025

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SORA QUALITY PAPER by GORIČANE

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Introduction

In 2025, the Goričane Paper Mill met all the legal requirements regarding emissions into the environment as set out in its environmental permit, whilst also implementing new measures to reduce the environmental impact of its operations further.

An important milestone in 2025 was the submission of a new application to amend the environmental permit. As part of the preparation of documentation covering production technology, emissions, waste management, the storage of hazardous chemicals and other aspects relevant to environmental protection, we have established guidelines for environmentally responsible practices.

In 2025, we successfully completed the installation of a new LOOS steam boiler. The new boiler has replaced the old WB40 backup steam boiler, which had been used only for backup purposes in recent years. After the new LOOS steam boiler underwent a series of tests, the WB40 steam boiler was permanently taken out of service. The introduction of the new boiler represents a step toward greater energy efficiency and a more reliable steam supply, while also reducing environmental impact thanks to more modern combustion technology and improved fuel efficiency compared to the decommissioned WB40 steam boiler.

Use of natural resources

Natural resources used in papermaking include cellulose, fillers and pigments (kaolin, chalk), well water and natural gas.

We measure the efficient use of cellulose, fillers and pigments using the material loss index from the production process. The material losses calculated at the water treatment device are based on the quantity of completely dry silt at the device's inlet. In 2025, as we adapted to market conditions, we faced a higher number of changes between different paper grades, which led to increased material losses. We exceed the set target by 0.15%.

Table 1: Average material losses from the production process

	Indicator	Objective	2021	2022	2023	2024	2025
Material losses	% (calculation based on gross output)	0.75	0.79	0.49	0.49	0.60	0.90

Another important natural resource is groundwater. There are four wells at the factory used to pump groundwater, and two that are used as observation wells.

Well water is used in paper production and for cooling purposes. Well water consumption depends on the production programme of the paper machine and on the operating time of the steam boiler. We have two steam boilers at the factory: the main Bosch boiler and the backup Wagner boiler, which was replaced by a new LOOS steam boiler in 2025. Table 2 shows the quantities of well water required for paper production and steam generation.

In 2025, as part of our water conservation programme, we carried out an investment to upgrade our vacuum system. Compared to the old system, the new vacuum generation system operates with half the electricity consumption, requires no water to generate a vacuum, has a positive impact on the environment and, at the same time, supports our objectives in line with the ESG regulations.

The introduced water management system has proved effective, as the data collected has enabled measures to be taken to refurbish the water supply system and wells, and to improve the monitoring system for water intake and discharge.

Due to its production programme of speciality papers and the large number of changes in its production programme, the Goričane Paper Mill is classified as a speciality paper mill, for which a maximum specific water consumption of 20 m^3/tonne of net production is specified in the BAT conclusions. Table 2 shows that, over the last five years, specific water consumption has been higher than 15 m^3/net production.

The third natural resource is natural gas, which is used to generate process steam. Natural gas consumption depends on the production programme. In 2025, the production process continued to demonstrate high energy efficiency, as evidenced by low specific consumption of electrical and thermal energy compared with the BAT techniques.

Table 1: Water and energy consumption

	Indicator	2021	2022	2023	2024	2025
Water consumption	Fresh water (wells) 1000 m3	2,033	1,938	2,033	1,679	1,506
	Fresh water (cooling in the energy sector) 1000 m3	565 (cooling, thermal power plant type)	0 (cooling, thermal power plant type)	0 (cooling, thermal power plant type)	0 (cooling, thermal power plant type)	0 (cooling, thermal power plant type)
		1,461 (cooling, process use)	1,932 (cooling, process use)	2,027 (cooling, process use)	1,674 (cooling, process use)	1,502 (cooling, process use)

	Fresh water (for use in paper production) 1000 m3	1,417	1,325	1,347	1,294	1,191
	Specific consumption of the process water m3/net tonne	17.3	16.6	16.9	16.1	17.5
Energy consumption	Natural gas 1000 Sm3	12,169	10,292	10,558	10,745	9,645
	Purchased electricity MWh	48,234	50,759	54,404	51,465	46,055
	Electricity consumption MWh/net tonne	0.652	0.637	0.644	0.638	0.677
	Thermal energy consumption GJ/net tonne	3.696	3.727	3.753	3.645	4.153

Emissions

AIR

Emissions into the air are produced during steam generation and during the drying and cutting of paper. Air emissions monitoring is required under the environmental permit every three years for boiler installations and every five years for dust extraction systems, and is carried out by an external authorised body. For steam generation, we have two medium-sized combustion installations with separate flue gas outlets: a Bosch steam boiler (metal flue) and a LOOS steam boiler (new metal flue). The concrete flue is out of service due to the decommissioning of the Wagner steam boiler. Only one steam boiler is in operation at any one time. The main boiler is a Bosch steam boiler, whilst the LOOS boiler serves only as a backup in the event of a failure of the main boiler. The Bosch steam boiler is a newer combustion installation for which emission limits of less than 110 mg NOx/m3 of air apply.

In 2024, we carried out monitoring of air emissions from the BOSCH steam boiler and demonstrated compliance with legal limits. No additional monitoring was required in 2025, as only the Bosch boiler was in operation.

No routine monitoring of air emissions is planned for 2026, but the first readings for the new LOOS combustion installation are anticipated.

Table 2: Emissions of substances into the atmosphere

	Indicator	Environmental permit	2021	2022	2023	2024	2025
Emissions into the atmosphere (Bosch boiler)	NOx mg/m3	110	65 **	65 **	65 **	72****	72****
All emissions	Dust mg/m3	150	8 *	8 *	3 ***	3 ***	3 ***

* monitoring 2018 *** monitoring 2023

** monitoring 2021 **** monitoring 2024

WATER

The company treats its industrial wastewater at its own industrial water treatment plant. The treatment process is based on a mechanical-chemical treatment (primary stage) and a biological treatment (secondary stage).

We monitor the quality of industrial wastewater through online readings of key parameters and daily laboratory readings. In addition, regular monitoring is carried out 12 times a year by external authorised institutions.

In 2025, during the production shutdown in September, we carried out extensive maintenance on the equipment that ensures the efficient operation of the primary section of the water treatment plant. Due to the production shutdown, we drained all the tanks, thoroughly cleaned them, and repaired any damage to the walls. In addition, we removed the settled primary silt from the reaction tanks, which resulted in a slightly higher annual volume of primary sludge.

Table 4 shows the results of the quality parameters obtained as part of the monitoring carried out by an external authorised institution. The results for 2025 confirm that emissions into the watercourse do not exceed the prescribed limits and that the company complies with the requirements of the current environmental permit.

Table 3: Emissions of substances into the watercourse

Emissions into the watercourse	Indicator	Environmental permit (targets as of 1 January 2013)	2021	2022	2023	2024	2025
Suspended substances	mg/l		7.5	5.6	8.15	8.57	9.02
	kg/t	0.4	0.12	0.09	0.11	0.11	0.14
COD	mg/l		43.3	44	57	50	61
	kg/t	4**	0.70	0.70	0.78	0.64	0.87
BOD5	mg/l	25**	6.3	6.6	6.8	6.8	7.9
	kg/t	0.5	0.10	0.11	0.09	0.09	0.12
N tot	mg/l		3.03	2.85	2.72	3.26	2.76
	kg/t	0.2	0.05	0.04	0.04	0.04	0.04
P tot	mg/l		0.245	0.254	0.28	0.25	0.16
	kg/t	0.01	0.0039	0.0042	0.0037	0.0033	0.0024
AOX	mg/l		0.07	0.11	0.10	0.11	0.17
	kg/t	0.005	0.0011	0.0017	0.0012	0.0015	0.004

** the limit applies to production involving more than one shift per day

NOISE

In 2025, following a noise pollution study, we carried out the refurbishment of the silencers on the west wall of the paper mill, which further reduced noise propagation into the surrounding area. When designing the new vacuum system, we incorporated additional noise reduction measures, thereby ensuring quieter operation of the equipment from the outset.

Following completion of the investment, an external accredited institution carried out routine noise monitoring, which confirmed compliance with the specified limits.

Noise monitoring is carried out in accordance with the environmental permit every three years, so the next monitoring exercise will take place in 2028.

WASTE

We manage waste in accordance with the current Waste Management Regulation (Official Gazette of the Republic of Slovenia, No. 77/22). For every type of waste, we have a designated source, a designated storage location and an authorised waste collection company. The waste generated by our operations is collected by companies holding the appropriate licences for transport, collection and treatment.

To ensure effective waste separation at the point of origin, we have placed small bins, labelled with classification codes, in our production units. Staff regularly ensure that bins are emptied at recycling points, where there are larger containers and bins for specific types of waste. We keep a monthly record of all waste and ensure that it is collected regularly by an authorised waste collection company.

We have an agreement in place with the company Dinos d.o.o. for the collection of packaging waste from our products sold on the Slovenian market.

Table 4: Waste generated at the Goričane d.d. site

	Indicator	Waste Management Plan	2021	2022	2023	2024	2025
Paper sludge	tonne	1,600	1,894	753	750	1,201	1,559
Municipal waste	tonne	50	44.5	37.2	37.8	31.7	31.0
Paper packaging	tonne	1000	997	1,033	942	944	863
Plastic packaging	tonne	15	12.8	17.1	15.9	17.6	13.8
Wooden packaging	tonne	60	58	55	66	69	53
Metal packaging	tonne	140	139	135	115	118	89.5
Composite packaging	tonne		15.9	57	28	24	35

Handling hazardous substances

We maintain a low level of risk in the handling of hazardous substances by regularly servicing storage tanks, pumping stations and associated equipment. We have a hazardous chemicals management plan in place, which sets out all the procedures and measures required for safe working practices and compliance with the law.

Employees receive regular training in the safe handling of hazardous substances and in how to react in the event of a spill. This way, we ensure that any potential hazards are quickly identified and effectively managed, thereby protecting people and the environment.

In 2025, we began working with an external safety consultant specialising in the transport of dangerous goods, who monitors all changes relating to the ADR on our behalf. In 2026, we will review the existing documentation with the consultant and update it as necessary.

Incidents

In 2025, there were no incidents that had a negative impact on the environment.

Implemented environmental objectives and programmes

The company's management regularly reviews environmental aspects and risks and initiates projects to achieve environmental objectives.

Written by: Matic Zibelnik